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Ontario. Legislative Assembly

# SESSIONAL PAPERS.

VOL. XXV.—PART V.

## THIRD SESSION OF SEVENTH LEGISLATURE

OF THE

## PROVINCE OF ONTARIO.

SESSION 1893.

28799
8/8/93

*TORONTO:*
PRINTED FOR LUD. K. CAMERON, QUEEN'S PRINTER,
BY WARWICK & SONS, 68 AND 70 FRONT STREET WEST.
1893.

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No. 2.. Report of the Commissioners appointed to enquire into the practice of Dehorning Cattle. Presented to the Legislature, 10th April, 1893. (*Printed.*)

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No. 8.. Report upon the Lunatic and Idiot Asylums of the Province for the year ending 30th September, 1892. Presented to the Legislature, 10th April, 1893. (*Printed.*)

No. 9.. Report upon the Common Gaols, Prisons and Reformatories, for the year ending 30th September, 1892. Presented to the Legislature, 5th April, 1893. (*Printed.*)

No. 10.. Report upon the Houses of Refuge and Orphan and Magdalen Asylums for the year ending 30th September, 1892. Presented to the Legislature, 10th April, 1893. (*Printed.*)

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No. 35.. Statement as to the disposal of the Revised Statutes for the year 1892. Presented to the Legislature, 5th April, 1893. (*Not printed.*)

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No. 37.. Report of the Librarian on the state of the Library. Presented to the Legislature, 6th April, 1893. (*Not printed.*)

No. 38.. Report upon the Hospitals of the Province for the year ending 30th September, 1892. Presented to the Legislature, 14th April, 1893. (*Printed.*)

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No. 42.. Copy of an Order-in-Council approving of certain agreements in regard to publication of Text Books. Presented to the Legislature, 11th April, 1893. (*Not printed.*)

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No. 48.. Copy of an Order-in-Council respecting the performance, during his absence through illness, of certain of the duties of the Inspector of Model Schools. Presented to the Legislature, 11th April, 1893. (*Not printed.*)

No. 49.. Return to an Order of the House of the seventeenth day of March, 1892, for a Return shewing the number of liquor licenses issued in each year from 1876 to 1891, both inclusive. The gross fund raised from licenses in each of the same years. The sums paid out of the said fund in each of the same years to the Province and the Municipalities respectively, and the sums the Municipalities have imposed by by-law over and above the Statutory Duties in each of the same years. Presented to the Legislature, 12th April, 1893. Mr. *Clancy.* (*Printed.*)

No. 50.. Return to an Order of the House of the twenty-third day of March, 1892, for a Return of copies of all correspondence between Mr. Inspector White and the Board of Separate School Trustees of the City of Ottawa, together with copies of all reports made by the Inspector to the said Board, with reference to the Separate Schools of the City, during the year 1891. Presented to the Legislature, 12th April, 1893. Mr. *Whitney.* (*Printed.*)

No. 51.. Return to an Order of the House of the twenty-fifth day of March, 1892, for a Return of copies of all correspondence between the Minister of Education, Sir Daniel Wilson, and one Manley, late caretaker or janitor of the School of Practical Science, or any other person or persons, relating to the conduct of said Manley while janitor, and his dismissal from said position. Presented to the Legislature, 12th April, 1893. Mr. *Whitney.* (*Not printed.*)

No. 52.. Return to an Order of the House of the eleventh day of April, 1892, for a Return shewing the number of County pupils attending High Schools or Collegiate Institutes in Towns separated from Counties for Municipal purposes, for each of the past three years ending 30th June; the amounts paid by said Counties to the said High Schools and Collegiate Institutes

for the same period; the amounts paid by said Counties to the said High Schools and Collegiate Institutes under the High Schools Act of 1891. Presented to the Legislature, 12th April, 1893. Mr. *Preston.* (*Printed.*)

No. 53.. Statement of Bonds and Securities registered by Officers of the Province during the year 1892. Presented to the Legislature, 14th April, 1893. (*Not printed.*)

No. 54.. Return to an Order of the House of the twenty-fifth day of March, 1892, for a Return giving the names of all persons who have been appointed to, who have resigned and been dismissed from positions in the Toronto Normal School, the Toronto Model School and the School of Pedagogy, within the last five years, together with copies, in each case, of all correspondence relating to the same between the Minister of Education or any member of the Government, or any officer of the Department of Education and the parties in question, or any other person or persons. Also, copies of all petitions, memorials and communications addressed to the Minister of Education, or any member of the Government, on the part of any, or all of the students of the Toronto Normal School, the Toronto Model School and the School of Pedagogy, within the last five years, and of any replies thereto on the Department of Education or the Government. Presented to the Legislature, 14th April, 1893. Mr. *Whitney.* (*Printed.*)

No. 55 . Return to an Order of the House of the fourth day of April, 1892, for a Return shewing the names of all authors and publishers of Public and High School text-books, with the respective books published by them and the prices thereof. Also, for the copies of all correspondence by or with the Minister of Education, or any officer of his department, respecting the price or publication of Public or High School text-books, subsequent to that already brought down. Presented to the Legislature, 14th April, 1893. Mr. *Kerns.* (*Printed.*)

No. 56.. Report of the Toronto General Trusts Company for the year 1892. Presented to the Legislature, 17th April, 1893. (*Not printed.*)

No. 57.. Copy of Commission appointing the Honourable George Airey Kirkpatrick, P.C., to be Lieutenant-Governor of the Province of Ontario, and of the instructions thereto attached. Presented to the Legislature, 20th April, 1893. (*Printed.*)

No. 58.. Return to an Order of the House of the tenth day of April, 1893, for a Return shewing how often, in the past ten years, the office of Registrar of Deeds for the North and East Ridings of the County of Middlesex has become vacant; the dates when the vacancies occurred and when they were filled, and, if the office is now vacant, how long the vacancy has continued. Presented to the Legislature, 20th April, 1893. Mr. *Meredith.* (*Not printed.*)

No. 59.. Papers and Documents relating to the Kingston, Napanee and Western Railway Company, the Ottawa, Arnprior and Parry Sound Railway Company, the Irondale, Bancroft and Ottawa Railway Company, and the Central Counties Railway Company. Presented to the Legislature, 25th May, 1893. (*Printed.*)

No. 60.. Analysis of Reports of Electoral District and Township Agricultural and Horticultural Societies in Ontario for the year 1892. Presented to the Legislature, 21st April, 1893. (*Not printed.*)

No. 61.. Report of the Master of Titles for the year 1892. Presented to the Legislature, 21st April, 1893. (*Printed*)

No. 62.. Return to an Address to His Honour the Lieutenant-Governor of the 12th day of April, 1893, praying that he will cause to be laid before this House a Return of the timber berths offered for sale at the sale of 13th October, 1892, and of the births then sold, including those sold by private contract after the auction sale, with the area of each berth, the price *per* square mile paid, the names of the several purchasers, the sums received on account of purchase money, the date of the payment thereof and the sums (if any) remaining unpaid on the 1st January, 1893, and shewing whether any, and if so which of the said berths had been previously sold, and when and to whom and for what price, and also for a return of a copy of the advertisement and conditions of sale, and of the Order-in-Council authorizing the sale. Presented to the Legislature, 24th April, 1893. Mr. *Whitney.* (*Printed.*)

No. 63.. Return to an Order of the House of the 4th day of April, 1892, for a Return of copies of all correspondence between the Commissioner of Crown Lands, or any officer of the Department of Crown Lands and George Paget and John Regan, or either of them, on the subject of, or with reference to an action in the High Court of Justice, Queen's Bench Division, between F. J. Jones plaintiff, and James Sharpe, Peter McDermott, George Paget and John Regan defendants, which said action was tried, or partially tried, before the Honourable Mr. Justice Rose at Hamilton, on the 2nd day of October, 1890, and settled by the parties thereto. Giving also, copies of all correspondence between the said Commissioner, or any such officer, and any other person or persons on the subject of or with reference to, the said action. Presented to the Legislature, 24th April, 1893. Mr. *Whitney.* (*Not printed.*)

No. 64.. Return to an Address to His Honour the Lieutenant-Governor of the first day of April, 1892, praying that he will cause to be laid before this House a copy of the Order-in-Council for the appointment of a Commissioner to examine into the claims of the Township of Proton in respect of the Land Improvement Fund, of the Commission used in pursuance thereof, and for a statement in detail of all expenses incurred in respect of the enquiry and report. Presented to the Legislature, 25th April, 1893. Mr. *Meredtth.* (*Not printed.*)

No. 65... Copy of an Order-in-Council adopting the first agreement of submission to the Arbitrators appointed for the settlement of the accounts between the Government of the Dominion of Canada and the Governments of the Provinces of Ontario and Quebec, and as between the said Provinces of Ontario and Quebec. Presented to the Legislature, 26th April, 1893. (*Printed.*)

No. 66.. Regulations of the Provincial Board of Health, with respect to Cholera, approved by Order-in-Council, dated 11th April, 1893. Presented to the Legislature, 26th April, 1893. (*Printed.*)

No. 67.. Copy of an Order-in-Council approving of the Regulations respecting the sources of supply and the place of storage of Ice intended for domestic use or cooling purposes, adopted by the Provincial Board of Health. Presented to the Legislature, 26th April, 1893. (*Printed.*)

No. 68.. Return in part, to an Order of the House of the eleventh day of April, 1892, for a Return shewing by Townships the amount remaining unpaid on the

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No. 71.. Return to an Order of the House of the eleventh day of April, 1892, for a Return shewing the number of bodies received by the Inspector of Anatomy, during each of the past five years from (1) Charitable Institutions (2) Criminal Institutions and (3) all other sources in the Province. Shewing also, the number of persons who have died from natural causes in each of the above named institutions during the same period, and the number of the criminal class who had spent ten years or more in prison before dying in prison, and the number of persons who during the same period have died at the hands of the executioner. Presented to the Legislature, 1st May, 1893. Mr. *Meacham.* (*Printed.*)

No. 72.. Return to an Order of the House of the ninth day of March, 1892, for a Return, shewing the estimated quantity of Pine Timber now standing upon the Crown domain of the Province and the estimated value thereof, setting the same forth as far as practicable by a description, by number or otherwise, of the berths upon which the same is standing, and where the territory has not been divided into timber berths, shewing the localities as far as practicable, and also shewing the data upon which such estimates are based, as far as practicable. Presented to the Legislature, 1st May, 1893. Mr. *Wood* (*Hastings.*) (*Printed*)

No. 73.. Report of the Commission on Municipal Taxation. Presented to the Legislature, 5th May, 1893. (*Printed.*)

No. 74.. Return to an Address to His Honour the Lieutenant-Governor of the twelfth day of April, 1893, praying that he will cause to be laid before this House a Return of the names of the several purchasers of the timber berths disposed of at the sale of October, 1890, and of the sales, if any, which were not carried out, and of the amounts, if any, remaining unpaid on account of the purchase money, if any, of such of lots and of a copy of the Order in Council authorizing the sale and of the advertisement and conditions of sale Presented to the Legislature, 4th May, 1893. Mr. *Campbell* (*Algoma.*) (*Printed.*)

No. 75.. Return from the Records of the several Elections to the Legislative Assembly, in the Electoral District of the City of Toronto, of the County of Peel, and the City of Toronto, since the General Election of 1890, shewing:— (1) The number of votes polled for each candidate in each Electoral District in which there was a contest. (2) The majority whereby each successful candidate was returned. (3). The total number of votes polled in each District. (4) The number of votes remaining unpolled. (5) The

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No. 76.. Report of the Ontario Game and Fish Commission. Presented to the Legislature, 11th May, 1893. (*Printed.*)

No. 77.. Return to an Order of the House of the third day of May, 1893, for a Return of copies of all correspondence between the License Inspector of North Brant, or other parties, and the License Department, of any member of the Government, in connection with the application of William T. Jenkinson for a tavern license in polling sub division No. 10, Brantford Township. Presented to the Legislature, 8th May, 1893. (Mr. *McCleary.*) (*Not printed.*)

No. 78.. Return to an Order of the House of the nineteenth day of April, 1893, for a Return shewing, separately for each County, the expenditure on colonization, Government, or County Roads and Bridges, by the Crown Lands Department, in the Counties of Victoria, Peterborough, Hastings, Addington and Frontenac during the year 1892, with the location and amount expended on each road and bridge, and giving the name of the overseer in charge, and the amount received by such overseer, for his own services out of each expenditure. Presented to the Legislature, 8th May, 1893. Mr. *Wood* (*Hastings*) (*Printed.*)

No. 79.. Return to an Order of the House of the twenty-third day of March, 1892, for a Return shewing amounts of defalcations made by the Treasurers of any of the Municipalities in the Province of Ontario during the years 1871 to 1891, both inclusive. Shewing also, the amounts any of said municipalities have lost during the same time for want of sufficient sureties being given by said Treasurers, and also shewing the number of Commissions of Enquiry into the finances of municipal corporations issued during said years under Section 383 of the Municipal Act. Presented to the Legislature, 9th May, 1893. Mr. *Balfour.* (*Printed.*)

No. 80.. Return to an order of the House of the nineteenth day of April, 1893, for a Return of copies of all correspondence in connection with an application for a new Bridge over York Branch River, between lots 20 and 21, in the Township of Carlow, in the County of Hastings, during the year 1892, and all papers or memoranda connected therewith. Presented to the Legislature, 10th May, 1893. Mr. *Wood* (*Hastings.*) (*Not printed.*)

No. 81.. Returns of all Fees and Emoluments received by the Registrars of Ontario for the year 1892, under the provisions of R.S.O. 1887. cap. 114, sec. 100, with which are contrasted receipts of the same nature in the years 1890 and 1891. Presented to the Legislature, 12th May, 1893. (*Printed.*)

No. 82.. Reports of the Poultry and Pet Stock Associations for the year 1892. Presented to the Legislature, 12th May, 1893. (*Printed.*)

No. 83.. Report of the Bee-Keepers Association for the year 1892. Presented to the Legislature, 12th May, 1891. (*Printed.*)

No. 84.. Report of the Central Farmers' Institute for the year 1892. Presented to the Legislature, 12th May, 1893. (*Printed.*)

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No. 86.. Return to an Order of the House of the fifth day of May, 1893, for a Return from the Treasurer of the Medical Council, giving a detailed statement of the sums paid to each member of the Medical Council during the past five years, for travelling expenses and hotel accommodation while attending Council and Committee meetings, and also of the details of the amount not down in the financial returns for 1890, 1891 and 1892, under the heading "Expenses of Legislation." Presented to the Legislature, 12th May, 1893. Mr. *Waters.* (*Printed.*)

No. 87.. Return to an Order of the House of the 10th day of May, 1893, for a Return shewing the number of votes polled in favor of, and against, the Scott Act By-laws when last carried in the different Counties and Cities of this Province. Also, the number of votes polled when the same Counties or Cities repealed such By-laws, and including the vote in those Counties and Cities where the By-laws, under this Act, did not pass. Presented to the Legislature, 16th May, 1893. Mr. *Gibson* (*Huron.*) (*Not printed.*)

No. 88.. Return to an Order of the House of the tenth day of May, 1893, for a Return of all convictions under the Liquor License Act in the Riding of North Ontario during the years 1891 and 1892. Also, of all moneys paid to the License Inspector for salary and expenses during said years, distinguishing the amounts paid for salary and the amounts paid for expenses. Also, of the particulars of any fines which may have been remitted during said years. Also, of the gross amounts of money received by the inspector in his official capacity during said two years, and a detailed statement of the amounts disbursed by him during the same time, shewing to whom and for what such disbursements were made. Presented to the Legislature, 16th May, 1893. Mr. *Glendinning.* (*Not printed.*)

No. 89.. Statement of the amounts loaned to the Municipalities of the Province under the Tile, Stone and Timber Act from 1st January, 1890, to 31st December, 1892. Presented to the Legislature, 19th May, 1893. (*Printed.*)

No. 90.. Report of the Secretary and Registrar of the Province for the year 1892. Presented to the Legislature, 19th May, 1893. (*Printed.*)

No. 91.. Return to an Order of the House of the fifth day of May, 1893, for a Return of copies of all correspondence between the Government and the License Commissioners of the County of Dufferin, or any other parties, concerning the resignation of the late License Inspector for the County, Mr. Anderson. Also, for copies of all correspondence between the Government and the said License Commissioners, or other parties, concerning the appointment of the present Inspector, Mr. Dodds. Presented to the Legislature, 19th May, 1893. Mr. *Barr* (*Dufferin.*) (*Not printed.*)

No. 92.. Return to an Order of the House of the twenty-fourth day of April, 1893, for a Return giving, except that already brought down, the dates of all Crown Timber Sales from 1871, as follows: The date of sale, the number and extent of the different timber berths in square miles, and the prices obtained at each such sale, *per* square mile. Presented to the Legislature, 22nd May, 1893. Mr. *Preston.* (*Printed.*)

No. 93.. Return to an Order of the House of the nineteenth day of May, 1893, for a Return shewing the number of petitions that have been presented to the House during the present Session asking for a plebiscite on the temperance question from temperance societies, churches and municipal corporations, giving the numbers from each in the order named. Also, shewing the numbers from each of the above-named bodies in favor of Provincial or other Prohibition, respectively. And the number of Petitions in favor of Bill (No. 70,) To prohibit the sale of intoxicating liquors by retail. Presented to the Legislature, 23rd May, 1893. Mr. *Field.* (*Printed.*)

# ANNUAL REPORTS

OF THE

# DAIRYMEN'S AND CREAMERIES'

ASSOCIATIONS

OF THE

# PROVINCE OF ONTARIO

# 1892.

I.—DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO.
II.—CREAMERIES' ASSOCIATION OF ONTARIO.
III.—DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO.

*PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE.)*

*PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.*

*TORONTO:*
PRINTED BY WARWICK & SONS, 68 AND 70 FRONT ST. WEST.
1893.

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# I—DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO.

# OFFICERS FOR 1893.

*President*, - - - - - - - - Wm. Bissell, Algonquin.

*1st Vice-President*, - - - - - - Wm. Duff, Inverary.

*2nd Vice-President*, - - - - - John McTavish, Vancamp.

*Directors:*

Division No. 1.—E. Kidd, North Gower.

Division No. 2.—Wm. Eager, Morrisburg.

Division No. 3.—Richard G. Murphy, Elgin.

Division No. 4.—James Whitton, Wellman's Corners.

Division No. 5.—T. B. Carlaw, Warkworth.

Division No. 6.—Henry Wade, Toronto.

*Secretary*, - - - - - - - - Harford Ashley, Belleville.

*Treasurer*, - - - - - - - - P. R. Daly, Foxboro'.

*Auditors* - - - - - - - - Morden Bird, Belleville.
W. H. Thompson, Prescott.

# LIST OF MEMBERS

FOR 1893.

| Name. | Post Office. | Name. | Post Office. |
|---|---|---|---|
| Ashley, Harford | Belleville. | Dean, W | Inverary. |
| Alexander, A | Napanee. | Duff, Wilton | " |
| Anglin, W. J | Battersea. | Dougherty, James | Elginburg. |
| Amey, H | Bellrock. | Doolin, T | Kingston. |
| | | Dean, J | Moira. |
| Bissell, Wm | Algonquin. | Daly, P. R | Foxboro'. |
| Brenton, F. W | Belleville. | Dawson, Frank | South Lake |
| Burrows, W | Kingston. | Darling, John M | Gananoque. |
| Bailey, A. E | Campbellford. | | |
| Bell, Thomas | Willetsholme. | Ewing, D | Cobourg. |
| Bird, Morden | Stirling. | Eager, William | Morrisburg. |
| Baxter, J. B | Barriefield. | Eager, George | Kemptville. |
| Brennan, Mr | Albert. | Ewing, J. B | Dartford. |
| Black, P | Mt. Chesney. | | |
| Burnie, M | Spencerville. | Fraser, J. C | Odessa. |
| Bawden, H | Kingston. | Fargey, Fred. S | Roslin. |
| Buck, W. E | Harrowsmith. | Forrester, J | Centreville. |
| Benson, Richard | Picton. | Fowler, J | Mt. Chesney. |
| Bartlett, C. E | Napanee. | Franklin, W. J | Joyceville. |
| Brize, H | Verona. | Furguson, Fred | Inverary. |
| Bertram, J | Harrowsmith. | Folger, B. S | Kingston. |
| | | Fowell, H | Belleville. |
| Campbell, A | Ormond. | | |
| Campbell, W | | Gilroy, C. J | Glen Buell. |
| Carlaw, T. B | Warkworth. | Gallagher, L. L | Wilton. |
| Cook, W. S | Belleville. | Guthrie, Wm | Perth Road. |
| Cleal, George | Selby. | Gallagher, J. S | Harrowsmith. |
| Campbell, T. N | Kingston. | Godkin, G. E | Escott. |
| Carlaw, George | Warkworth. | Gibson, R | Morven. |
| Creamer, J | Glenvale. | Gerow, W. F | Napanee. |
| Chisholm, George | Foxboro'. | Graham, R | Belleville. |
| Cochrane, R. B | Elginburg. | Gillespie, Robert | Barriefield. |
| Calder, Charles A | Warsaw. | | |
| Clancey, Thomas | Enterprise. | Henderson, F. J | Pittsferry. |
| Cousins, James | " | Hume, Thomas | Burnbrae. |
| Cook, W. D | Croyden. | Haycock, J | Cataraqui. |
| | | Hogan, J | Kingston. |
| Donoghue, J. M | Westport. | Hinch, O. G | Napanee. |
| Dollar, W. N | Napanee. | Halliday, E. V | Elgin. |
| Derbyshire, D | Brockville. | Herrity, John | Warkworth. |
| Davis, J | Pittsferry. | | |
| Duff, William | Inverary. | Joiner, Elijah | Kingston. |

List of Members—*Continued.*

| Name. | Post Office. | Name. | Post Office. |
|---|---|---|---|
| Johnston, H. M | Cherry Valley. | Rollins, R | Madoc. |
| | | Ridges, D | Kingston. |
| Kidd, E | North Gower. | Redmond, J. P | Lansdowne. |
| Ketcheson, James | Belleville. | Robinson, G. W | Kingston. |
| Keenan, J | Kingston. | Reid, A. P | Belleville. |
| King, B | Railton. | Robertson, George | Morven. |
| Keenan, Thomas | Kingston. | Richardson & Webster | St. Marys. |
| Kenney, Joseph | Harrowsmith. | Rae, D. A | Wolfe Island. |
| Keely, James | Railton. | Rankin, H | Collin's Bay. |
| Laird, J | Picton. | Soper, H. L | South Mountain. |
| Langworth, C | Sunbury. | Spence, S. S | South Dummer. |
| Lane, J | Dufferin. | Stewart, C | Belleville. |
| Lowry, Thomas | Warsaw. | Spence, H | Norwood. |
| | | Shibley, J. D | Harrowsmith. |
| Murphy, R. G | Elgin. | Stephenson, T | Uptergrove. |
| Metzler, Mr | Odessa. | Stratton, Mr | Dufferin. |
| Morton, Herbert | Sydenham. | Switzer, E | Bloomfield. |
| Moulton, F. D. & Co | 29 Broadway N.Y. | Smith, G. A | Parham. |
| Morton, John C | Wellman's Corners | Scott, Thomas | Glen Stewart. |
| Murphy, L. L | Kingston. | | |
| Madden, E. J | Newburg. | Thompson, W. H | Prescott. |
| Moreland, John | Sydenham. | Thompson, R | Napanee. |
| McRae, D | Wolfe Island. | Trousdale, P. W | Sydenham. |
| McGrath, James | Mt. Chesney. | Thornton, Mrs | Kingston. |
| McLean, D | Eric. | Townson, John | " |
| McCallum, P | Brewer's Mills. | Tolan, D. H | Sunbury. |
| McGarvey, W | Sunbury. | Tucker, S. G | Ventnor. |
| McRae, W. R | Kingston. | | |
| McAuley, F. D | Railton. | Vanluven Bros | Moscow. |
| McTavish, John | Vancamp. | Vandervoort, S.T | Sidney Crossing. |
| McLeod, W | Lancaster. | | |
| McConnell, H | Springbrook. | Wade, Henry | Toronto. |
| McCalpin, H | South Lake. | Wartman, H | Kingston. |
| McCargar, J. K | Belleville. | Ward, P | " |
| | | Wood, George | Tamworth. |
| Nugent, J. Alexander | Harold. | Whitton, James | Wellman's Corners |
| | | Whalen, William | Centreville. |
| Onderdonk, F | Albany, N.Y. | Willoughby, W. R | Battersea. |
| | | Ward, R. W | Wallbridge. |
| Peters, S | Cherry Valley. | Wells, John | Wicklow. |
| Publow, G. G | Perth. | Wood, Albine | Roslin. |
| Quinn, J | Dufferin. | | |

# SIXTEENTH ANNUAL CONVENTION.

OF THE

# DAIRYMEN'S ASSOCIATION OF EASTERN ONTARIO.

The sixteenth annual meeting of the Association was held in the City Hall, Kingston, (which had been kindly placed at the disposal of the gathering by the Mayor and Council of the city) on Wednesday and Thursday, January 18th and 19th, 1892.

The first session was opened at 10.30 a.m. by the President, Wm. Eager, of Morrisburg, calling the meeting to order and delivering the following address :

## THE PRESIDENT'S ADDRESS.

*Gentlemen of the Dairymen's Association of Eastern Ontario :*

It gives me much pleasure to have another opportunity, of presiding at this Convention and especially so in the old historic Limestone City so intimately associated with the early settlement of this county, and so favorably known as the seat of one of our most flourishing universities.

This is the second occasion in which the Association has met in the city of Kingston. When this Convention was held here before, in the year 1880, the people in the city and surrounding country knew very little about the working of the Association, and in consequence the meeting was scarcely recognized by the citizens and the farming community. Since that time the cheese industry has increased very rapidly throughout the country, and a great deal of the success is attributed to the instructions given by the Dairymen's Associations throughout the Dominion.

The large production of cheese in Canada during the season of 1892 has been most marvellous, the exports during the season of navigation from the port of Montreal has exceeded any previous year by about 300,000 boxes. The total shipments up to the close of navigation, for the season of 1892 are 1,651,789 boxes. For the year 1891 the shipments to the close of navigation were 1,352,670 boxes. One of the cheese exporters in Montreal, writing to his correspondents in England during the summer, said the cows in Canada were doing their level best to give Englishmen all the cheese they wanted.

We have done well in the past, but what about the future in manufacturing and marketing our cheese? I have heard a great many complaints this last season from the dealers as regards shipping cheese too green from the factories ; some manufacturers shipping cheese up to three days old. These things should not be. Shipping cheese so young will injure the quality of the goods and ruin our reputation in the markets of the old world. Every factoryman and cheese buyer should look carefully into this matter and do nothing that will interfere with the quality of our cheese. One and all cannot be too careful in this, in order that we may hold our reputation in the English markets.

If there is one thing more than another that interferes with the quality of our Canadian cheese and especially so in Eastern Ontario, is the care and handling of milk before it reaches the factories. I know from practical experience that a great deal of the milk brought to the factories is badly cared for by the patrons. In fact, patrons of cheese factories as a rule are too careless in handling their milk after it is drawn from the cows. Something should be done to remedy this evil if possible, as large amounts of money are lost every year by the patrons of factories, bringing tainted milk to be manufactured into cheese. Every can of such milk put into the cheese vat injures the good milk, and as a matter of course takes more milk to make a pound of cheese and the difficulty does not end there. When those cheese mature they develop a bad flavor, which lessens their value from one to two cents per pound.

It is a fact that cannot be too strongly impressed upon the minds of every one connected with the care of milk or the manufacture of milk produce, that milk takes in every odor as well as the seeds of every ferment that blows over its surface. Every odor that comes in contact with milk is grasped and taken in at once, and its grasp is never slackened. Once taken in it is there permanently. Milk must be handled and kept in clean vessels and must stand in pure fresh air, such as would be healthy for people to breathe.

As regards cheese boxes there has been a good deal of complaining by the exporters of cheese last season from Montreal. Those men say the boxes are not strong enough to stand the hammering they get in transportation. Factorymen should look closely after this matter and have the boxes well made, thoroughly nailed and the cheese should fit the box. If a cheese is loose in the box it will break with anything like rough usage. Cheese arriving at their destination in good boxes add very much to the result of the sale.

Last spring the Hon. John Dryden, Minister of Agriculture for Ontario, granted the sum of $750 to this Association to start a dairy school similar to that in the west. After we had the money the difficulty arose where to find a man to carry on the work. However, I communicated with Prof. Robertson and my friend Mr. Derbyshire, and we succeeded in engaging a good man to take up the work, Mr. McEwen, who is here with a full report of all the work during the season. The reports of the other inspectors will also be submitted to you.

The Babcock test and the payment of milk according to the butter-fats I trust will be thoroughly discussed to the satisfaction of all present.

Our old and esteemed friend, Prof. Robertson, will not be with us, owing to some delay in England. I can assure you I am very sorry for this on account of the date of the convention being changed. He wrote me before leaving for England that if I could change the date to the third week of January he would try and attend the convention. He has done all in his power to get back, but circumstances would not permit.

When our Association was first formed we were depending almost exclusively on our friends from the other side of the line, but now we are in a position as far as practical results and quality are concerned altogether ahead of our neighbors to the south of us. I submit for your approval the following nominations for the various committees:

## COMMITTEES.

Business.—D. Derbyshire, M. Bird, W. Duff.

Nominations.—H. Wade, T. B. Carlaw, James Whitton, R. G. Murphy.

Dairy Utensils.—A. E. Bailey, Robt. Rollins, G. G. Publow, W. McLeod.

Finance.—H. Wade, R. G. Murphy, Wm. Bissell.

Legislation.—T. B. Carlaw, D. Derbyshire, W. Eager.

The convention accepted the committees as above named.

## SOME PRESENT CONSIDERATIONS.

Mr. D. Derbyshire: I must congratulate you, Mr. President, upon the able address you have just delivered, and upon the success which has attended your administration of the affairs of this Association during the year just closed. Never in the history of the Association have we been able to do as much work, and work of such good quality, as during the past year. Never was so large a number of cheese made, and cheese of so fine a quality, in Eastern Ontario, as during the past season. This last year of your administration, sir, has been one of our best as an Association, and to you and to the Association is due much of the credit for the onward strides the cheese industry has been more recently making. It is encouraging to know that our shipments of cheese have been 300,000 boxes larger than ever before, and that the quantity now on hand is not as large as usual. That is because we have made cheese of a finer quality, and so it has gone more quickly into consumption. The Association has been very materially assisted by the Ontario Government, which has come to our help, and enabled us to procure the services of a first-class man to aid and supervise the other instructors in their work. The knowledge we have gained during the past twelve months will help us greatly in the future. It is the privilege of the dairymen of Canada to supply the people of that great manufacturing country across the ocean with a first-class cheese product. Of course we are making money at it, but patriotism and humanitarianism in providing a first-class article for our kinsmen in the old land also act as motives. (Applause and laughter). In the matter of cheese-making we have made greater progress than any other country in the world. Now, gentlemen, do you really want to make a finer article of cheese during the coming year than ever before? If so, we must get more dairymen to take hold of the work in the spirit of patriotic enthusiasm. We must have proper milk, first of all, for unless we have the right raw material we cannot do very much in the way of real progress. Regarding boxes, I agree with the President, that an improvement is much to be desired. If some men who are shipping would go to Montreal they would there see the difficulty. The chief trouble is that the boxes do not fit close to the cheese. If the boxes are a close fit you may step on them without harm. But if you can slip your hand between the box and the cheese you cannot ship with safety, and it will get a bad name. Box-makers must provide us with a better article. If a maker sends you a box you deem unfit for your cheese, make him take it home again. The dairymen of the west got $750 for a dairy school at Tavistock, and we more modest people of the east believed that we also should receive a similar benefit. I therefore went to the Minister of Agriculture and pointed out to him the condition of affairs, and he was pleased to meet our needs and put $750 in the estimates for us. Then came the difficulty. I wanted our dairy school to be located at Brockville; others wanted it at Cobourg; others at Napanee; and others at Belleville, and there was likely to be some trouble over the location. We communicated with Prof. Robertson and got his advice, and he advised us to get the services of Mr. J. B. McEwen, and that our best plan would be to get neighboring makers into one factory, and by lectures and practical talks to them and the patrons show them how to handle milk and make cheese in a better way. This was just what we desired, as it enabled our dairy school to move around and carry the gospel of dairying to the people. I feel proud of the Government that gave us the money to do this work, and I am proud of the man who has been performing that work. Our President has said that we should pay for milk according to value, and not by weight. That is the honest thing. It would make better neighbors. It would do away with much turmoil, for the man who now puts in skimmed or sour milk would be careful when he knew he was to be judged by the deeds done in the body. (Laughter and applause). It is a ticklish thing for a man to have to go to his neighbor and speak about these things; troubles like these have been known to break up churches. (Laughter). This new principle of paying for milk according to quality will make a man keep better cows, for he will then know that he will be paid according to the real value of the milk he produces—paid for it according to quality as well as by weight. The present system appears to mean a cow with the pump thrown in. (Laughter). Prof. Shutt will be here to instruct us in regard to this Babcock method of testing milk. He has given much time and attention to this question of milk

testing, and will fully expound its workings to us. We have an able staff of speakers, including Prof. Dean, of the Ontario Agricultural College, one of the best posted and most practical men in this line of work. After a few jocose remarks the speaker closed with the hope that all present would return to their homes with a greater desire than ever to improve their conditions as dairymen.

## EASTERN DAIRY SCHOOLS.

Mr. J. B. McEwen, Superintendent of the Eastern Ontario Dairy Schools, was introduced, and delivered the following address: I may say, by way of introductory remarks, that this is the first time I have attended a convention of the Eastern Association, as I am a western boy, or, at least, most of my experience has been gathered in that part of the Province. For the past year or two, however, my time has been spent in the east, and I will now give you a report on the work done under your auspices, and so kindly alluded to by the President and Mr. Derbyshire.

Arrangements having been made by Prof. J. W. Robertson, Dominion Dairy Commissioner with Mr. D. Derbyshire, President of the Creameries' Association of Ontario and Mr. Wm. Eager, President of the Dairymen's Association of Eastern Ontario, for me to take up the Dairy School work for Eastern Ontario, I received instructions to report at Brockville, on the 9th of May, where the work would be mapped out and supervised by Messrs. Derbyshire and Eager.

The object of the work, for which a grant of $750 had been made by the Ontario Government, was the establishment of a dairy school at a central point in Eastern Ontario in a well-equipped cheese factory, where all cheese-makers, dairymen and any person interested in dairying could attend and receive instructions on the most approved methods of making cheese in the different months of the season, the testing of milk with the Babcock and lactometer, and any other information relative to the advancement of our dairy industry.

After mature deliberation by the gentlemen who had this work under their control, it was not considered advisable to locate the school permanently at any one factory, owing to the large section to be covered, extending from Lancaster on the east to Peterborough and Lindsay on the west, but to have the school go from one centre to another, remaining only a few days in each place, and thus bring it within reach of everyone. It was also arranged to hold meetings of the patrons at the different places visited. This part of the work was left in the hands of the local dairymen.

The territory was covered twice from the 9th of May to the 9th of October. During the first trip, Brockville, Morrisburg, Gananoque, Kingston, Napanee, Belleville, Campbellford, Peterborough, Lindsay and Port Hope sections were visited; the work being planned and arranged by the respective cheese boards. I finished at Port Hope at the end of July, and again reported at Brockville. During August I visited a number of factories in the outlying sections, such as along the C. P. R., from Prescott to Manotick and vicinity, and around Smith's Falls, Perth and Mallorytown. The balance of the five months was spent in my second trip when I visited Morrisburg, Napanee, Campbellford, Peterborough and Kingston districts.

The plan of work was somewhat changed from the first. Instead of spending a day or two at one factory and advertising ahead, a number of factories were visited in one day. A short time was spent with the cheese-maker, talking over his system of making in the fall, examining the quality of cheese on hand, carefully offering suggestions as to any changes considered necessary, and especially to guard against pastiness in the late make. In this way I was able to visit a large number of factories in the time at my disposal and to give hints to a number of makers which I hope were helpful to them for the remainder of the season.

I visited in all, 184 factories, met with 244 cheese-makers, and held 20 meetings, at which nearly 1,500 people attended. The expenses in connection with the work were $254.90, and he balance of the grant was applied to salary.

To review the season's work thoroughly would require a long article, but I am hopeful that the time and money spent were productive of good results. It is satisfactory to be able to say that at nearly every factory and section of country visited, the work was appreciated to a very high degree. Every person interested gave it their hearty co-operation and support, and our leading dairymen everywhere willingly gave their time and services and all they could to cause the work to give the most pleasing and best results to all concerned, and also to show their appreciation of the interest the Government had manifested towards the eastern dairymen in making a grant for this special work.

The urgent necessity for increased work of this kind is apparent to all who are interested in the building up of a reputation in this part of the province for the manufacture of a uniform fancy quality of cheese. No doubt a number of our best cheese-makers are doing so now, and they deserve every credit for it, but it is surprising when you consider the number of cheese-makers that are employed, the small percentage that are sustaining or adding to our Canadian reputation for the production of a high class quality of cheese. The great trouble appears to be that these makers do not study the principles which underlie the successful handling of milk at the different seasons of the year and under every changing condition. Work of this kind will naturally stimulate them to better efforts and afford them opportunity of a practical object lesson at least once or twice in the season. The meeting together of a number of makers for a day or two in a factory, where they have an opportunity to compare methods and opinions, must necessarily be productive of good, and tend to rouse them out of, in a great many cases, their careless and slovenly manner of managing their factories.

I have never been so forcibly convinced that cleanliness, cleanliness, cleanliness, is the watchword of a successful dairyman than during the past season. I must say a large number do not know what the word means in connection with their factories, and this is very surprising when they should reasonably be shining examples to their patrons. The inaccurateness of a great many thermometers in use was astonishing, some being as much as five degrees astray. The necessity of having correct and reliable thermometers for setting and cooking is imperative. Next season there will be no excuse for this, as the leading firms who handle cheese supplies have secured thermometers direct from Germany guaranteed correct.

One fault which I found common throughout was the prevailing inclination to ripen the milk too much. This was of malice aforethought in a great many cases, as nearly all were using a rennet test more or less accurately. By the using of a drachm for the rennet and a six or eight ounce rennet measure of milk, all should get reliable indications as to the amount of acid on the milk. I found to ripen ordinary milk so as to give three hours from time of setting until the whey was removed, and two hours and twenty minutes to two hours and thirty minutes for gassy milk, gave the best results. The greatest objection to over-ripening milk is that you are compelled to cook the curd too quickly, thereby cooking the outside of the particles, and not thoroughly through and through, causing a waste of butter-fat after removal of whey, and a weakness in the body of the cheese. I am also convinced that it is very difficult, and at times impossible to make a uniform article during hot weather without the use of racks or sinks, and you have also a great amount of extra labor to expel the moisture.

The necessity of keeping the curd and making room at a high temperature during warm weather is a delusion, as the curd will not only be improved by being exposed to the atmosphere, but will ripen as quickly if not more so.

I found a most pernicious practice being indulged in by the buyers and factorymen in some parts, in the shipping of cheese almost up to the hoop, especially when these cheese were for through shipment. If we do not receive the disinterested co-operation of all concerned in the attempt to improve the quality, the efforts of the instructors are to a large extent negatived, as the makers' financial interests overstep their patriotism in their attempts to suit the buyer.

The proper curing of the late cheese is allowed by all to be a matter of the greatest importance, still what gross negligence is exercised by some makers. Out of six factories visited one day early in October, the weather being very cold, the temperature in five of

them stood between 40 and 50 degrees, and the cheese were mostly green. How easy it would have been to have had it at 65 degrees continuously.

The number of meetings was not large, but they were attended by the class of dairymen who are seeking after knowledge, realising that to make dairying pay, they have to make changes in their present system. The subjects mostly discussed were those that are at the present time engrossing the attention of dairymen and agriculturists throughout the Province. The better and more economical management of cheese factories, the payment of milk according to Babcock, the care of milk and handling of the dairy cow, the lessening of the cost of production of milk by keeping only the best cows, decreasing the number of acres of pasture, the growing of soiling crops for the months that are sure to come with their scarcity of pasture, the growing of corn for ensilage to enable everyone to feed their cows during the winter with the most succulent food and at the least possible cost.

The payment of milk according to percentage of fat contained, and winter dairying excited the most interest. Motions were passed at several meetings in favour of paying for milk next season by the Babcock, the belief being freely expressed that it is the only just and equitable way.

Winter dairying was also eagerly discussed, and based upon the successes which attended the experiment at Woodstock and Mount Elgin dairy stations last winter, the reasonableness and soundness of the principle advocated made a deep impression on a great many who had heretofore calmly considered that their cows were entitled to free board for four months in the year.

In conclusion I would say that there is much room for improvement in the matter of giving advice to cheese-makers and patrons. The trouble with many cheese-makers is that they are disposed to take words of instruction too literally, and not suit them to varying local conditions. As it is now, one day some makers will have a gilt-edged article, and the next day they will have a sample acid-cut or soft.

Mr. KEELEY: We would like Mr. McEwen to visit us oftener. Our present system of cheese inspection and instruction is not what it should be, and a change is desirable. Where we have a country to cover extending from Lancaster to Lindsay it is impossible to visit a factory oftener than once a season, and give proper instruction. Factorymen and buyers in the various sections should employ a man, under the Babcock system, to visit all the factories in the group and inspect the milk. Those directly interested should pay these men. It would be a small item to each factory, and the results would be of the very best character.

A MEMBER: How many factories could one man manage?

Mr. MCEWEN: That would be a matter of local condition. Say 25 or 30 factories should unite. The cheese-makers could take samples and have one man to do the testing. We have some cheese-makers who are thoroughly capable of doing this work; but there are others whom it would not be wise to trust with this Babcock test, simple though it be. I am sorry to say that some men of ability are kept from going into cheese-making because many factories will not allow much more than laborer's wages. If we are to have better workmen they must be better paid. I am confident that the next five years will witness wonderful revolutions in the dairying business—the result of an improved system. If we follow up this idea of continuous dairy work from January until December, and the Babcock test, we will have something we may well be proud of.

Prof. H. H. DEAN: I desire to say a word or two in regard to one of the points alluded to in the address of the President, and the remarks of Mr. McEwen. The care of milk is at the foundation of the cheese-maker's business. The best cheese-maker cannot make good cheese unless he gets good milk. If you were to examine a list of the men here to-day you would find that the majority are not patrons, but buyers or cheese-makers. Realizing the importance of that, I would say, and I speak from two years' experience with the travelling dairy, that people generally are not as able to take in information as readily as we suppose. I have found that after our dairy talks persons would come to us for private information on the points we had been explaining just before. So we got out a small sheet called "Hints on Butter-making," which did not

cost much, and gave them out at our meetings, so that persons interested could read and digest them at their leisure. Your Association should get some simple rules for handling milk, and distribute them at the meetings of patrons, who could take the matter home for further reading and consideration. Mr. McEwen suggested that one man should do all the testing for a given section of 25 or 30 factories. Now, I do not think that plan is practicable. I have spent some time at the Elma factory, where the plan was a composite test. Once a week samples were taken with the Babcock tester, and the man who did the work there said that it took nearly all day to test those samples. They had 98 patrons. You can easily see that it would take a man a long time to test for a large group of factories. I think that a cheese maker with ordinary intelligence, with a few lessons in the use of the pipette and the acid, should be able to make proper tests. I believe that the man who is sufficiently intelligent to make a first-class cheese can make the Babcock test. I understand that the factory I speak of paid their cheese-maker an extra $100 for making the test, and also pay their secretary a little extra for his additional work. I had the privilege of attending their annual meeting, and some of the patrons of the Bluevale factory were also present. On the Listowel cheese board Bluevale cheese was selling for 11 cents a pound, while Elma cheese commanded 11¼ cents. The Bluevale men present at the annual meeting were anxious to know how the Elma maker was able to get so much more for his output, and they also wanted to find out how the Elma patrons felt about the Babcock test. The president said he would call for an expression of opinion, and he said, "All who are satisfied with the new method hold up your hands," and every hand went up, while some held up two. The cheese-maker of that factory says he never had such good milk as since he adopted that test. He was also prudent and practical enough to tell his patrons that unless they cared for their milk they could not get a good test. At that factory there was a noticeable improvement in the amount of milk required to make a pound of cheese. The proprietors of every factory should get up a small pamphlet as to the care of milk at different seasons of the year. Of course I admit that there is a difference of opinion as to the care of milk, but a practical man could easily be found to make rules, not too long, and not too technical, and it would be a great boon.

Mr. McEwen: I agree with Prof. Dean in what he has said about the good influences of the Babcock test. In every case where we have had that method applied it has had a good effect, not only in the improvement of the quality of milk, but also in the condition of the cheese. Instructors have always preached man's duty to man in the matter of the care of milk, and in tampering with it, but still patrons have been very careless. I believe that if a man brings milk of a good, pure quality he should get full value for it, or say 100 points; but if his milk be tainted, or in any way inferior, it should be given a less value, according to the judgment of the maker. Every cheese-maker should be a judge of milk. If he receives a sample that is gassy or inferior he should deduct, say 5 points on the 100, as compared with first class milk, when crediting it to the patrons. I agree with Mr. Bell, however, in not cooling milk. If a man will look after his cows, especially in salting them, and thoroughly aerate the milk, it may come to the factory without being cooled. But the old Adam comes in here, in this matter of cooling. If a man cools his milk he is apt to be satisfied with that. If he has not cooled it he will not be satisfied unless he has aired it. Prof. Dean has told us that in the Elma factory it took nearly a day to test the milk for butter-fat. But that is an argument the other way. I understand that in another factory where they have about 150 patrons it takes only a few hours. As regards the liquifying of sour or thick milk, I would say that I expect Prof. Shutt will be here and take up the question of the Babcock test, when he will, no doubt, mention the results of experiments carried on with bi-chromate of potash instead of concentrated lye, as generally practised.

Mr. Laird: Regarding your advice to cheese-makers, to dock the weight of milk, not up to the standard of richness, is there not danger of a terrible kick?

Mr. McEwen: That is one way of reaching a man's intelligence. You know, gentlemen, the pocket is the most vulnerable point with most men. Such a plan not only educates and encourages the other patrons, but it does that particular man much good.

Of course, some makers are afraid to send cheese back. If, however, a man expects to receive as much for 100 lb. of poor milk as another man gets for 100 lb. of good milk, he is dishonest at heart.

A MEMBER: At how low a temperature do you think milk may be brought?

Mr. MCEWEN: More depends upon allowing cows to have free access to salt than the matter of temperature. Better let the cows get at the salt daily than only on the Sabbath morning. (Laughter). In extremely hot, muggy weather you need to be more careful than usual with your milk. I started to learn the business of cheese-making when a mere boy. I was in the Ingersoll district, and was taught to cool the milk. I remember that one season our maker never put water to the milk or cooled it in any way, and the cheese had that beautiful, nutty flavor so much desired and so seldom realized.

Major REDMOND: Do you mean to say that a large quantity of milk—say 300 lb.—will keep as well as a smaller quantity?

Mr. KEELEY: I have aerated my milk, and have kept as much as 250 lb. of milk. I never dip.

Mr. LAIRD: I have bought an aerator, costing me only $2, and my cheese-maker never finds fault with my milk now. One fault with the aerator, however, was that the strainer would get clogged; but we took it out and put in a double cheese cloth, and had no difficulty with it clogging after that.

A MEMBER: May I ask the cause of milk thickening before souring?

Prof. DEAN: A good deal of that is due to bacteria, those mysterious little fellows floating around in the air. Prof. Conn says that there is a certain class of organisms which cause milk to coagulate without becoming sour. In regard to the strainer clogging, a good plan would be to turn the strainer upside down occasionally, and throw a pail of water through it which would clean it out.

Mr. G. G. PUBLOW: I do not agree with Mr. McEwen as to taking a certain percentage off weight of milk because of lack of quality. The best way to educate a patron is to make him take his milk back. I believe more attention should be paid to the preparing of milk for reception at the factory. I am of opinion that the water the cows drink has much to do with the condition of the milk. The water to which the cows have access should be analyzed by some responsible man, and you can depend upon it that if water is not fit for you to drink, it is not fit for your cows (Applause). We all want cheese with nutty flavor, and gilt-edged quality generally, but you cannot make a well-flavored cheese out of bad or tainted milk. Strain your milk thoroughly, and have your utensils perfectly clean. Until milk is fit for your own table, it is not fit for cheese or butter. Air your milk especially in warm weather, and in real hot weather milk should be cooled a little. Airing milk will take the animal flavor out of it. Do not, however, put too much milk together. If milk sets long together it will become sour, and cheese-makers do not want sour milk.

A MEMBER: If you aerate with a dipper is there not a danger of dipping too long.

Mr. DERBYSHIRE: I do not think it is at all common in Canada to aerate too much

A MEMBER: Some men will keep stirring their milk for a half hour or hour, until the butter-fat is broken, in fact the milk is sometimes too much stirred.

Mr. PUBLOW: The only plan at all fair is to pay the patrons according to quality.

Mr. KEELEY: Then their milk will go on the wagon to another factory. Our inspectors are getting patrons into right shape, as they are encouraging patrons to get aerators.

Mr. PUBLOW: The factorymen should agree about taking milk. They could arrange to stick to certain defined sections.

A MEMBER: The Government should make the use of aerators by patrons compulsory.

Mr. DERBYSHIRE: The Government could hardly do that. But here and at the factories the people need the great truths of correct dairying preached to them, so that

they will of themselves come to the conclusion that it will be to their own interests to take the matter up. Let them see that it is in their interest to send the best milk and get the best price for it and they will rise to the occasion. Gov. Hoard once heard a man say that the Babcock test beat the Bible for making a man honest, for he had tried both. (Laughter.)

Mr. McEwan: I do not advise taking bad milk; but sometimes it is almost impossible to refuse milk that is not perfect.

Mr. Ruddick: Milk should be aired the morning it is used as well as on the evening before. Some persons overlook the fact that the morning's milking requires aeration just as well as the evening's. Of course it is not exposed over night, but coming from the cow it needs to be aired.

Mr. Keeley: We get two cents a pound for our butter over the market price, and I think it is largely because we aerate our milk.

Mr. Ruddick: If milk is thoroughly aerated it needs no more protection or treatment. One objection to cooling milk below the temperature of the atmosphere, especially in muggy weather, is that if you set the cooled milk in a room of warmer temperature the moisture in the air will settle on the surface of the milk, and any impurities in the air will thus be carried into the milk. I believe with Mr. McEwen that the testing of the milk should be placed in the hands of one man. I have had a little experience in travelling from factory to factory and I know what a man can do in a day, and I believe that one man can inspect a great many samples in a day. It is not necessary that such a man should examine as to the cleaning of the cans; his work should be mainly seeing the amount of butter-fat in each sample.

Mr. Derbyshire: Do not aerate milk in the barnyard.

A. Member: That's so.

Upon motion the meeting adjourned until two o'clock p.m.

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## FIRST DAY.—AFTERNOON SESSION.

The President called the Convention to order shortly after two o'clock. The attendance was large and much interest was manifested in the proceedings.

## REPORTS OF INSTRUCTORS.

The inspectors and instructors employed by the Association were called upon for reports, and read the following statements:

### REPORT OF INSTRUCTOR McLEOD.

Mr. President and Gentlemen,—In presenting my second annual report as instructor and inspector of your Association, there are several unusual circumstances to note.

As you are aware my district includes Prescott, Russell, Glengarry, Stormont, Dundas and parts of Carleton, Lanark and Leeds. In this section there are, as accurately as I have been able to determine, 225 factories. Of this number only 26 applied for inspection—not one from the Brockville section. I believe the smallness of this number can be accounted for by considering the combinations, each employing their own inspectors and by the fact that there were four persons who supplied themselves with a Babcock tester and travelled the country, testing on their own responsibility and for a lower fee than that fixed by this Association. Consequently much of the work was done by these men.

The first factory visited was on June 8th, and in all 28 visits were made to factories; some 1,300 samples of milk tested; 6 of these were found not up to the standard, 4 were short of cream, and 2 were adulterated with water. In all six cases the offending parties were dealt with by the proprietor of the factory. In 22 factories the milk was found pure and good.

Factories were found in good shape, clean and suitable and very much improved during the last two years.

The following are the names of the factories visited with the number of visits to each: Bainsville 2, Iroquois 3, Tyotown 1, Mouliuette 1, South Branch 1, Wells 1, Hawkesbury 1, Arnolds 1, Vankleek Hill 1, Ferguson 1, Summertown 1, St. Eugene 1, Glen Sandfield 1, McAlpin 1, Caledonia 1, Barb 1, Vankleek Hill South 1, Lunenburg 1, Dixson 1, Ormond 1, Vernon 1, Irvale 1, Maxville 1, Eager's Corners 1, Fraserfield 1.

This matter of inspection by unauthorized persons is one that deserves the consideration of the Assoc ation As you see it has naturally int rfered with the work of your inspectors, and it is to be expected that the Association should devise some plan to prevent such inte ference as this.

Wesley McLeod.

Lancaster, Jan. 2nd, 1893,

## REPORT OF INSTRUCTOR PUBLOW.

Mr President and Gentlemen, —I herewith submit my fourth annual report as instructor and inspector for the "Eastern Dairymen's Association."

The district allotted to me was the same as in previous years, comprising the territory between Kingston and Ottawa, west of the B. and O. Railway.

Of the 110 applications received for instruction and inspection, the majority reached me before the 10th of May, and of this number I was, owing to three weeks' illness, only able to overtake 70, namely: Boyd's 3, I X L 3, Fairplay 1, Clear Lake 2, Dominion 1, Springvale 2, Seeley's Bay 2, Lyndhurst 1, Ontario 2, Maple Grove 1, Rockdale 1, North Shore 2, Singleton No. 5, 1, Salem 3, Fermoy 1, Westport 2, Ardmore 2, Clearview 2, Maberly 1, Brookside 1. Watson's Corners 3, Hopetown 2, Middleville 2, Union Pride 2, Maple Home 2, Pakenham 3, Mississippi Pride 1, Lakeview 1, Centreville 1, Augusta Model 1, Ronan 1, Farmersville 1, Morton 2, Glen Buell 1, Code's No. 3, 1, Code's No. 2, 1, Kidd's No. 2, 1, Kidd's No. 3, 1, Kidd's No. 1, 1, Carp 1, Balderson's 1, Valley Queen 1, Beckwith 1, Appleton 1, Drummond Centre 2, Fallbrook 1, North Star 1, Fairfax 1, Bruce 1, Ottawa Valley 3, Cedar Grove 1, S. L. U. 1, Bathurst Mutual 1, Clyde 1, Mississippi 4, Riverside 1, Waba 1, North Williamsburg 1, Elbe 1, Numagate 1, Reliable 1, Grand Centre 1, Coldglen 1, Plum Hollow 2, Lake View 1, Escott Union 1, Lombardy 1, Elgin Model 2, Clear Spring 1, Glen Elm 1.

Of the 132 days comprising the season, 103 were spent in testing milk and giving instructions. The remainder of the time was spent in travelling between factories and settling with parties for sending deteriorated milk.

Of the 6,010 samples tested with Babcock and lactometer 17 were deteriorated, 4 containing added water, 1 skimmed and watered, and 11 deficient in butter-fat from skimming or stripping of cows. Fines were imposed on 13, the Association receiving one-half the fine from each of eleven of these, amounting to $127. Fines were not imposed on the other four, the parties declaring on oath before a magistrate that the added water was accidental. The amount contributed by factorymen for my services was $480, which together with $127 from fines make a total to the Association of $607.

Some have spoken of having a fixed standard for milk during the seasons, but herein lies a difficulty, as the average of butter-fat found in milk varies each month.

During the month of *May* the average of butter-fat was 3.3, the lowest sample tested 2.4, the highest 4.0. *June*—Average was 3.6, lowest sample 2.8, highest 4.4. *July*—Average was 3.7, lowest sample 1.6, highest 5.0. The average in one factory of 32 patrons being 4.0. *August*—Average was 3.7, lowest sample 2.2, highest 4.8. One factory of 62 patrons averaged 4.2. *September*—Average was 4.1, lowest sample 3.0, highest 5.0. *October*—Average was 4.7, lowest sample 2.2, highest 5.2.

As will readily be seen from the above the difference between the highest and lowest sample in each case is great, and tends to show the advisability of paying for milk according to quality.

Throughout the whole dist ict factorymen are becoming more interested and see the necessity of better factories and appliances. In many places new buildings are being put up and others repaired and refitted, preparing for a longer season of manufacture, so that a finer quality of cheese may be had during the early and late months of the season.

Last year I suggested the removal of all old sunken whey-vats, and I am pleased to state that in some places this has been done and new vats, so constructed as to be easily cleaned, put in.

In consequence the patrons received better whey, their cans are more easily cleaned, and the milk is received at the factory in better condition.

The improvement in the manufacture of cheese is marked, and our cheese-makers are putting forth every effort to make the improvement still greater. This end can only be attained by each one doing his part thoroughly and intelligently. One thing noted during the latter part of May and the early part of June was, that in three factories where potatoes had been fed very largely, the cheese was very much deteriorated in value, having very bad flavor and a soft, starchy texture.

In conclusion I would thank all parties with whom I came in contact in the performance of duty, for their kindness and courtesy towards me.

G. G. Publow.

A Member: Is the inferior quality of the cheese spoken of by Mr. Publow due to the feeding of potatoes?

Prof. Dean: If you feed potatoes largely to cows you will have a soft and poor quality of cheese. You may feed a small quantity, however, without doing any harm. Last year a great many people went into feeding potatoes, and not only was there a soft cheese but the article had a potato flavor.

## REPORT OF INSTRUCTOR ROLLINS.

Mr. President and Gentlemen,—I herewith submit my report as milk inspector and instructor for the season of 1892.

The district to which I was appointed was the same as that of last year, comprising the counties of Frontenac, Lennox, Addington, Prince Edward, and part of Hastings. I tested milk and gave instructions in 63 factories as follows: Newburg 3, Camden East 3, Glenvale 2, Pine Hill 2, Rose Hill 2, Keenan & Son 2, Glenburnie 2, Origan 3, Harrowsmith 2, Forest Mills 5, Enterprise 5, Centreville 5, Croydon 5, Bradshaw 2, Hartington 2, Forest 2, Lake Shore 2, Thousand Islands 2, Granite Hill 2, Woodburn 2, Central 2, Maple Leaf 2, Bear Creek 1, Cold Springs 2, Railton 2, Verona 2, Tamworth 2, Marlbank 2, Money More 2, Moscow 2, Bell Rock 2, Whitman Creek 2, Selby 2, Napanee 2, Parham 1, Tichborne 1, Long Lake 1, Bedford 1, Springhill 1, Battersea 2, Sand Hill 2, Farmer's Friend 2, Odessa 2, Gould 1, Palace Road 2, Empey 2, Leo Lake 2, Excelsior 1, Mr. Duff's 1, Sheffield 3, St. Lawrence 1, Union 1, Perth Road 1, North Shore 1, Sunbury 1, Morning Star 1, Platt 2, Excelsior 2, Albert, 2; Weller's Bay 1, Union 1, Elmbrooke 1, McAlpine 1.

I commenced work for the Association May 9th, and continued till November 3rd. I worked during that time for the Association 149 days, 123 days testing milk and of the remaining 27 days I spent 3 attending cheese boards and 24 days driving and instructing. Part of this time I was detained from testing milk on account of rainy nights. The number of samples tested was 7,000. The number of samples tampered with was 43. This is a big improvement from former seasons, and those that were tampered with were mostly in factories where they never had an inspector until this season. I find the milk as a whole much better than in former years. Until this season I rarely got a sample of 4 per cent. milk from any vat, up to the end of the season. This season after the first of August it was with a few exceptions 4 per cent. or better. I am pleased to report that in Kingston section I find a steady improvement, both in the quality of the cheese and the construction of the factories. The owners of factories and the cheese-makers seem to be doing all they can to turn out fine goods. The great trouble I find now is the lack of care some of the patrons give their milk. I find milk coming to factories not strained nor aerated and also coming in rusty cans that the acid in the whey has taken all the tin off. A little care in this respect would save lots of trouble to the manufacturers and money to the patrons.

In conclusion I would advise cheese-makers to be careful about ripening their milk too much. I found some makers last season going too far with this process, which is a bad mistake.

I would also advise makers to be careful not to put on too much acid in the whey. I find, as stated before, the milk last season was richer in butter-fat and the moisture harder to expel, consequently it requires more hand stirring when the whey is drawing off.

Amount contributed by factorymen to the Association for my services was $495 as follows: Kingston Cheese Board, $200; Napanee Cheese Board, $200; Factories in Napanee and Prince Edward County $95.

Robt. Rollins.

Kingston, Jan. 16, 1893.

## REPORT OF INSPECTOR BAILEY.

Mr. President, Ladies and Gentlemen,—In presenting my fourth annual report of work done for the Dairymen's Association of Eastern Ontario in the Belleville and Campbellford district for the season of 1893, I am pleased to state that I have found a great improvement in the uniform quality of cheese manufactured in many sections visited; although we still find many cheese-makers very untidy in regard to their factories and the general condition of their utensils. I cannot but remark upon the very unworkmanlike appearance and style of cheese seen upon the shelves in some curing rooms, and we also find too many cheap and worthless boxes in use, largely caused by the Boards of Directors hiring the cheapest men to be got, and cheese-makers cutting so low in prices when tendering for a factory, as not to leave after paying their ordinary running expenses any margin for what we would call fair wages. I hope the above noticed errors will be remedied ere long by our cheese-makers and factorymen uniting together and forming a more solid basis for the welfare of the dairy industry in general, which has proven to be in past years the most profitable branch of agriculture. I also trust the efforts put forth by our Provincial and Dominion Governments for the establishments of winter-dairying will be cheerfully taken in hand by our farmers one and all, as these gentlemen at the head of our dairy departments have shown by their untiring energy and skill that they have the welfare of this great and grand industry at heart.

My work for past season has been as follows: No. of visits made to cheese factories, 342—between the 15th of May and the 15th of November. No. of days testing milk, 100; instructing, travelling, etc., 32 days; attending court, in settlement of trials, etc., 23 days; making a total 155 days under employment.

I tested some 3,785 samples of milk with Babcock tester, and found per each month as follows: May—Highest per cent. of butter-fat, 4.1; lowest, 2.7; average for month, 3.3. June—Highest, 4 8; lowest, 3.0; average, 3.4. July—Highest, 4.7; lowest, 3.0; average, 3.3. August—Highest, 4.6; lowest, 3.1; average, 3.3. September—Highest, 4.6; lowest, 3.4; average, 3.8. October—Highest, 5.0; lowest, 3.6; average, 4.3. The average specific gravity in some 5,000 samples of milk known to be pure lay between 1.027 and 1.031.

No. of cases of adulteration found, 88, disposed of as follows: 30 fined, 9 paid, a total of $389; 2 were turned out of factories; 14 cases were settled by presidents and directors of different factories to which they belonged; 15 light cases were cautioned, on account of its being their first offence; 7 cases lost in court on account of views taken of certain clauses in the Milk Act by magistrates; 20 cases not proceeded against on account of publication in daily papers of decision given by Police Magistrate Flint on December 5th in regard to the utter worthlessness of Milk Act.

### Financial Statement.

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| Total amount from P. R. Daly, Treasurer | $ 478 55 |
| Amount from fines for season | 389 00 |
| Total for factory subscriptions | 345 00 |
| Total | $1,212 55 |
| Amount due me from 1889 | $ 43 00 |
| " due 1891 after deducting certain expenses, etc | 157 05 |
| " for 155 days' work, season 1892, $5 per day | 775 00 |
| " paid to factories as their share of fines | 197 00 |
| Expenses, law costs, printing, etc., etc | 40 50 |
| Sum total | $1,212 55 |

Arthur Bailey.

## INFLUENCE OF FOOD ON MILK AND BUTTER.

Prof. H. H. Dean, of Ontario Agricultural College, was called upon to deliver an address upon the above named subject, and began by saying: There remains much to be learnt in regard to dairying. In fact we are but just stepping into the field of knowledge relating to milk, butter and cheese. It is very important that all work in this connection should be done accurately and thoroughly, and it should be the object of experiment stations and all those who have this matter in charge to get the very best men for the work. We have in connection with the Ontario Agricultural College what is known as

the Experimental Union, the object of which has been to get the farmers in all parts of the Province to carry on co-operative experiments. We have found that what might be a good variety of grain, or a good fruit tree, or a good artificial manure for Guelph might not do for other sections of the Province, and so we thought it well to invite the co-operation of the farmers of the Province generally in order to lend further value to the experiments made at Guelph. This principle of co-operative experimental work has been extended to our dairy department at the College, and the Experimental Union has appointed a committee to aid in our dairy work. I shall, therefore, be glad if any of you will assist in this work of experimentation in order to find out certain truths in connection with dairying, and I can assure you of a welcome from your fellow-experimenters.

In regard to the subject of my address, I may say that at the present time people are asking themselves as never before, "Is it possible to feed cows any food that will increase the amount of butter-fat in the milk?" Put that question to the average dairyman, and he will say: "Well, I practically can. I can feed my cow certain grains and other rations which will increase the yield of butter-fat." Now that looks reasonable, and many people believe it and state it freely, but let me say a word of warning just here. The milk of a cow has been tested and it has been found to be very low, and the owner has declared the animal to be no good, and says he will keep her no longer. But you must not judge a cow by one test. One day a cow may give 4 per cent. of butter-fat, and another day she may give only 2½ per cent. There are two things which go to make up a good milking cow: first, the *quantity* of milk she gives, and second, the *quality*. We have a cow that averages only 3 per cent. of butter-fat and another that gives 5 per cent., but the latter does not net us more butter than the animal giving the smaller percentage, for that animal gives a larger yield of milk. While we have arrived at certain results under certain conditions with our cows, we are not to say that under different conditions with different cows widely different results shall not follow. The peculiarities of the animal and the character of her surroundings must be considered as well as the mere feeding when the quality of her milk is under consideration.

In all experimental work, allowance should be made for the influence of the animal, or for the characteristics of the different animals. It is quite possible to obtain different results with the *same food* with different animals. It is only after a number of trials with different animals that we are able to come to anything like definite conclusions as to the effect of food on milk, butter, beef, pork, mutton, or any other animal product.

### Composition of the Animal Body.

At Rothamstead, England, the home of Sir J. B. Lawes, they have made several analysis of the whole bodies of animals. Their composition was as follows:

| | Fat calf. | Half fat ox. | Fat ox. | Fat lamb | Store sheep. | Fat sheep. | Extra fat sheep. | Store pig. | Fat pig. | Averages. |
|---|---|---|---|---|---|---|---|---|---|---|
| Water | 65.1 | 56.0 | 48.4 | 52.2 | 61.0 | 46.1 | 37.1 | 58.1 | 43.0 | 51.89 |
| Nitrogenous matter (lean meat or muscles chiefly) | 15.7 | 18.1 | 15.4 | 13.5 | 15.8 | 13.0 | 11.5 | 14.5 | 11.4 | 14.32 |
| Fat | 15.3 | 20.8 | 32.0 | 31.1 | 19.9 | 37.9 | 48.3 | 24.6 | 43.9 | 30.42 |
| Ash | 3.9 | 5.1 | 4.2 | 3.2 | 3.3 | 3.0 | 3.1 | 2.8 | 1.7 | 3.37 |

We may then, roughly speaking, divide the animal body into two parts—water and dry matter. The average percentage of water of the nine classes of animals here given is practically 52 per cent. In newly born animals it reaches 80–85 per cent. The water of the animal body comes from the food it eats and the water it drinks; hence the need of a plentiful supply of this very common article.

The dry matter (48 per cent.) may be said to consist of bony material (ash or mineral matter), fat, a small quantity of sugar, and nitrogenous or lean matter. The fat and the lean parts are of most importance for food. The fat consists of but three elements, carbon 76.50, hydrogen 12.00, and oxygen 11.50 per cent. All these come from the atmosphere by means of the plant. The lean part or nitrogenous matter consists of carbon 52.54, hydrogen 7, nitrogen 15.17, oxygen 24.21, sulphur 1 to 1.5 per cent. It will be noticed that the lean part contains two elements, nitrogen and sulphur which fat does not. The nitrogen is the most expensive element found in the body. The albuminoids of the body may be said to consist of three groups albumen (white of egg), fibrin (lean meat) and casein (curd). All this day matter comes from the food of the animal.

### Composition of Foods.

Foods may also be divided into water and dry matter. The water of ordinary foods varies all the way from 8 to 92 per cent. The oil meals contain least, while roots and ensilage contain the greatest percentage of water. The dry matter of food may also be said to consist of ash (bone-forming material) fat, carbohydrates (sugar, starch, etc.) and nitrogenous material (muscle formers). The ash of plants goes to build up the bones of an animal; the fat helps to produce fat and is also burned up in the body producing heat and energy; the sugar also produces heat and energy and indirectly, at least, helps to produce fat, the nitrogenous part of food performs all that the fat and sugar does, besides furnishing the material to produce lean meat or muscles. It is hence the most valuable part of the food considering its manurial value. As a heat producer fat is most valuable. The fat is worth $2\frac{1}{2}$ times more than the sugar for food.

Strange to say, we find in foods three classes of nitrogenous matter which correspond closely to the three classes of nitrogenous animal: matter albumen, found in young growing plants, fibrin found in wheat, and casein, also found in wheat flour.

"This close mutual relation and easy convertibility of the albuminoids has the highest significance for animal nutrition. As we have seen, the most important solid components of the animal body are the albuminoids and related bodies. It is these which constitute its muscles, tendons, nerves, in fact all its working machinery. Now, so far as we know, the animal organism has no power to originate a particle of these substances. Its sole source of them is, in the herbivora directly and in the carnivora indirectly, the albuminoids of the plant. These, by virtue of their great similarity to the animal albuminoids, are readily altered into them and become part of the body."

*Experiments with feeding wheat.* We have looked in a general way at the composition of the animal body, and of foods. Now let us turn to that compound which we are all more or less interested in viz., milk. The average composition of milk is a difficult thing to determine. There are scarcely two authorities that agree.

Blyth, an English authority, gives the following: "Average composition of healthy cow's milk (parts by weight) milk-fat 3.50, casein 3.98, albumen 0.77, milk sugar 4.00, galactine (a nitrogenous compound) 0.17, lactochrome (the coloring matter of milk) undetermined, lactic acid (traces), alcohol (traces), oil of milk (traces), urea (traces), kreatinine (traces), ash 0.70, fluorine, sulphuric acid in combination .005, and water 86.87."

Prof. Conn says: "The composition of milk, however, varies widely with different cows and different conditions surrounding the cows, but a tolerably fair average composition may be given as follows: water 87, fat 3.6, casein 3.3, albumen 0 7, milk sugar 4.7, and ash 0.7 per cent."

Some claim that in no case do the albuminoids exceed the fat, but it will be noticed that in both of these authorities quoted the casein and albumen exceed the percentage of fat. Whence come these different ingredients of the milk? The water evidently comes from either or both the food and water given the animal. As water forms about 87 per cent. of milk this all coming from the food and drink of the cow the importance of a plentiful supply of *pure* water is readily seen. The ash of milk so important in building up the bony structure comes from the food and possibly to some extent from water which contains a high percentage of mineral matter in solution. As to the sources of the other ingredients af milk I quote from Armsby's Manual of Cattle Feeding, p. 418.

"The *albuminoids* of milk (casein and albumen) are obviously derived from the albuminoids of the food or of the body. The albumen of milk seems to be identical with that of the serum of the blood, but the casein, as already noted, is not found in the body, but is a product of the action of the cells of the milk gland.

The *fat* of the milk appears to be also formed from albuminoids. This is shown both by microscopic examination and by other facts. By means of the microscope the formation of fat globules in the epithelial cells of the gland may be seen. Moreover, experiments have shown that carnivorous animals, on a purely meal diet, produce normal milk, thus proving that milk-fat may be formed from albuminoids, and have also shown that the greatest quantity of fat is generally produced on a ration rich in protein. Experiments on herbivorous animals * * * have shown no necessity for the assumption of a formation of milk-fat from carbohydrates.

The *milk-sugar* may also be formed from protein or fat, as the above-mentioned experiments on carnivorous animals show. In the case of herbivorous animals, however, it is probable that a part of it at least is derived from the carbohydrates of the food."

It is a common impression among farmers and others that the richer or better the cow is fed the higher is the percentage of fat, or in common language the more cream and butter may be obtained from *the same number of gallons of milk.* Even so good an authority as Warington, in his Chemistry of the Farm, p. 130 says: "The quality of milk produced is largely determined by the individual character of the animal, and the length of time which has elapsed since birth; the quality of the milk is also affected by the same conditions. Subject to these natural limitations, both quantity and quality are greatly influenced by the character of the food supplied."

I wish now to call your attention to the results of some experiments conducted at the Dairy department of the Ontario Agricultural College. For particulars of these experiments, I would refer you to the College reports of 1891 and 1892. In 1891 we fed a ration of ensilage, 30 lb; oat straw, 20 lb.; hay 10 lb. The average percentage of fat in the milk of six cows while receiving this ration was 3.67; solids, not fat, 7.79. On a ration of hay, 20 lb; linseed oil meal, 4 lb; cottonseed meal, 5 lb.; the percentage of fat of the same six cows was 3.49; solids, not fat, 8.62. Hay, 20 lb.; peameal, 4 lb.; oatmeal, 5 lb.; cornmeal, 8 lb., produced milk with the same cows containing 3.25 per cent. fat and 8.37 per cent. solids, not fat.

During 1892 a ration (fed to six cows) consisting of 50 lb. ensilage, 5 lb. hay and 1 lb. bran, produced milk containing 3.61 per cent. of fat, and 8.69 per cent of solids, not fat. On a ration of 50 lb. ensilage, 5 lb. peameal, 3 lb. oatmeal, 2 lb. barleymeal and 5 lb. hay, the same cows gave milk with 3.48 per cent. of fat and 9.03 per cent. of solids, not fat. The pounds of milk required to make one pound of butter on the poor ration was 25.3, and on the rich ration, 25.2—practically the same.

As a result of the two years' experiments we would conclude that with the cows, and for the period of time stated, rich feed does not increase the percentage of fat in milk, nor can you make more butter from the same number of gallons of milk from the same cows, at about the same period of lactation, when they receive rich feed than you can when fed but moderately. This is true for short periods of time, say six weeks. The *total amount* of butter, however, may be largely increased by liberal feeding, owing to the fact that the *quantity* of the milk will likely be increased.

### Effect on the Butter.

I shall mention but one point in this connection, and this, the effect on the melting point of the butter, or its firmness. The average melting point of both lots when fed on the ensilage and meal ration was 33.38° C., and on the ensilage and hay ration 32.79°—a difference of .59° C. Last year we found that cottonseed meal had a remarkable effect in firming butter, raising the melting about 4° C. One degree increase of melting point makes a great difference in the handling of the butter. Butter that would be called soft at 31° to 32° would be quite firm at 33° or 34°.

Now, do not think that I recommend poor feeding, for there is benefit to be derived from good, liberal feeding, We also need to give careful attention to breeding. If we

will breed a strain of cows that give milk rich in butter-fat, that richness will in time become more or less established, and so also with cows giving a large quantity of milk. Good feeding in any case is not to be neglected.

A MEMBER: Did the cows keep up flesh on their poor ration?

Prof. DEAN: No; they lost flesh rapidly. But while we got less milk the richness, so far as butter-fat is concerned, was about the same.

A MEMBER: How long should milk be kept from the factory after calving?

Prof. DEAN: At least eight milkings.

A MEMBER: Do you believe in feeding largely with bran or meal during good pastures in order to harden the cheese?

Prof. DEAN: No. I do not think it would have any benefit. Feeding cottonseed meal, however, has an effect upon butter-fat, making it harder and firmer, and with a higher milking point.

A MEMBER: What is a first-class ration for a cow?

Prof. DEAN: We feed 50 lb. ensilage, 6 lb. hay and 8 lb. of ground wheat with excellent results. We bought the wheat by the ton at $20, and were able to make over $2 a hundred on it. I think it will pay to feed wheat rather than sell it at a low price. We also found the following a good ration: 50 lb. of ensilage, 6 lb. of hay, 2 lb. bran, 2 lb. ground oats and 2 lb. cottonseed meal.

Mr. DERBYSHIRE: This has been a valuable address. The great difficulty is that many people think that the cow needs nothing more than a bite of hay. The average farmer appears to be anxious to see how little food can keep a cow over winter, and they appear to be satisfied so long as they can lift her up in the spring. A man near Brockville said recently: "Dang the cow, anyway." Unfortunately, that poor fellow gets only $14 a cow. But with $14 at the foot of the list and $67 at the head, it is easy to be seen that skill counts for something in dairying. If you want anything out of a cow give her warm and comfortable quarters and plenty of good food, and do not fail to have ensilage. You can put it up at $2.20 a ton, and two tons of it will go as far as one ton of hay. Never waste food, but remember the words of Prof. Dean, that it pays to feed liberally. If you starve a cow you cannot get good results; feed and handle her properly and she will make you prosperous.

## EXPERIMENTS IN CHEESE-MAKING AT THE PERTH DAIRY STATION

Mr. J. A. RUDDICK, Superintendent of Experimental Dairy Work (Dominion), was next called upon, and delivered the following address:

The experiments which supply the material or data for this paper were conducted by me under Prof. Robertson's direction during the summer of 1892, and in the months of June, July and August.

The factory at Perth is well adapted for carrying on this kind of work, being roomy, well lighted and ventilated, and easy to keep clean, besides there is an excellent supply of good, pure water available. I was supplied with a special vat having three compartments, each independent of the others, and so arranged that the heating could be done simultaneously in the three or separately, just as desired. These vats have a capacity of 2,000 lb. each.

The experiments carried on were as follows:

1. To determine the quantity and quality of cheese made from milk containing different percentages of fat.
2. The effect of high *vs.* low cooking of the curd.
3. The effect of setting the milk at different degrees of ripeness.
4. The effect of piling *vs.* not piling of the curd.
5. The effect of early *vs.* late milling of the curd.

*Effect of Different Percentages of Fat on Quantity and Quality of Cheese.*

At the present time the first of this series of experiments will be looked upon perhaps as the most important and interesting, because it bears directly on a question towards which your attention has been much drawn of late, a question in which everyone connected with the cheese industry is or should be interested, viz., that of "paying by test," so-called.

As a preliminary to this experiment all the milk received at the factory was tested several times with the Babcock tester in order to learn the average quality of the different patrons' milk. After having done this it was an easy matter to select enough of the richest milk to fill one compartment of the special vat, enough of the poorest to fill another, while the third one was filled with milk of an average quality.

The milk in each compartment was then sampled and tested in duplicate, and it is the readings of these tests upon which all the calculations are based.

The highest per cent. of fat in any milk used in this experiment was 4.1, and the lowest was 3.2.

The test was tried 25 different days, and as there were three vats each day we have a total of 75 tests. 98,595 pound of milk were used making 144 average sized cheese.

In this experiment, as well as in all the others, the cheese were weighed at three weeks old, simply because this is about the time cheese usually go to the market.

I have endeavored to make a practical application of the results of this experiment in the following table :

| | Lb. of milk. | Percent. of fat. | Lb. of fat. | Lb. of cheese. | Lb. of milk for 1 lb. cheese. | Lb. of cheese to 1 lb. fat. | Price of cheese. | Actual value. | Am't of dividend according to weight of milk. | Am't of dividend according to fat test. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | $ c. | $ c. | $ c. |
| 1 | 9,277 | 3.9 | 361.80 | 935.00 | 9.92 | 2.58 | 10¼ | 95 83 | 87 67 | 96 92 |
| 2 | 8,025 | 3.8 | 304.95 | 783.25 | 10.24 | 2.56 | 10 3/16 | 79 78 | 75 84 | 81 69 |
| 3 | 5,460 | 3.7 | 199.80 | 515.25 | 10.48 | 2.57 | 10⅛ | 52 16 | 51 03 | 53 52 |
| 4 | 12,900 | 3.6 | 463.12 | 1,220.50 | 10.56 | 2.63 | 10 1/16 | 122 81 | 121 19 | 124 06 |
| 5 | 11,200 | 3.5 | 392.00 | 1,049.25 | 10.67 | 2.67 | 10 | 104 92 | 105 85 | 105 01 |
| 6 | 16,835 | 3.4 | 572.19 | 1,554.50 | 10.82 | 2.71 | 9 15/16 | 154 47 | 159 10 | 153 28 |
| 7 | 7,700 | 3.3 | 254.10 | 706.75 | 10.89 | 2.78 | 9¾ | 69 79 | 72 77 | 68 08 |
| 8 | 9,733 | 3.2 | 311.45 | 881.75 | 11.03 | 2.83 | 9 13/16 | 86 51 | 91 98 | 83 43 |
| Totals ..... | 81,070 | 3.5 | 2,859.41 | 7,646.25 | 10.60 | 2.67 | | 766 27 | 765 43 | 765 99 |

In the first column, under "weight of milk," we have on each line opposite the different percentages of fat, the total number of lb. of milk that was used of as many different qualities. Thus there was made up during the course of the experiment 9,277 lb. of milk testing 3.9 per cent. of fat, giving 361.80 lb. of fat, and from which was made 935 lb. of cheese, taking an average of 9.92 lb. of milk for 1 lb. cheese.

Last year Prof. Robertson estimated that every increase of 2·10 of 1 per cent. of fat in the milk increased the value of the cheese made therefrom ⅛ of a cent per lb. speaking of milk ranging from 3 to 4 per cent. Now, then, as the average per cent. of fat in the milk on this table is 3 5 we will assume that the cheese made from 3.5 per cent. milk is worth 10c per lb., consequently on the scale referred to above the cheese made from 3.9 per cent. milk would be worth 10¼c per lb. Therefore, 935 lb cheese @ 10¼c. would give us $95.83 as the real value.

We will suppose, now, that the different lots of milk on the table were supplied to a cheese factory by as many different patrons, that it has been made into cheese and sold,

and a dividend paid according to weight of milk delivered without regard to quality, the man who sent the milk testing 3.9 would receive only $87.67 as against $95 83, representing the actual value.

He would lose in this case $8.16 on this quantity of milk, or in other words, over 8½c. per 100 lb. of milk.

If, on the other hand, the dividend was declared according to per cent. of fat contained, he would receive $96 92, which is $1.09 more than the actual value, or just a little over 1 cent per 100 lb. of milk.

As we go down the columns nearer to the average we do not find the differences so great. Below the average the differences are reversed, and the man who sends the poor milk would lose a trifle if paid according to per cent. of fat. But my contention is that the man who sends the rich milk is entitled to whatever extra he would get, if any, for building up the quality of the pool. The differences, however, as shown by this table between the actual value and the amount when divided by fat test, are so small that they are not worth considering.

There is another factor in the case which is worth considering. It must be remembered that this milk was selected from among 72 patrons of a factory, and it is only fair to suppose that if any little skimming was indulged in it was from the milk testing poor that the cream was taken; consequently this milk would make more cheese in proportion to its fat than it would if normal.

*High v. Low Cooking of the Curd.*

In this experiment the milk was first mixed in one large vat and then divided into three vats, exactly the same quantity being weighed into each one.

Eight tests were made in this experiment, and one vat was cooked to 90° in each test, one to 95° and the other to 100°. The most marked difference in the results is in the matter of average or lb. of milk required to make one lb. of cheese.

At a cooking temperature of 90° it required 10.29 lb. of milk for 1 lb. of cheese; at 95° 10.35 lb. and at 100° 10.51 lb. When these cheese were examined and scored by Prof. Robertson those cooked to 95° stood first, those cooked to 100° second, while the low cooking gave the poorest cheese.

The difference, however, was only a few points. As most cheese-makers well know, the high cooking gave a tougher body, while in the case of the low cooking the body was rather rich and mealy.

We may conclude from this experiment that the cooking temperature might possibly be lowered somewhat below 98°, providing means were at hand to give the curd extra stirring when getting rid of the whey. Doubtless a better average could be made, but as quality is the first consideration any departure in this direction must be made cautiously. Further experiment is necessary in this direction.

The curd cooked to 100° was much more difficult to stir (on account of the tendency to mat or run together) than that which was cooked lower.

The curd cooked to 90° only was very easy to stir. I think there is a lesson here for those cheese-makers who believe in allowing the heat to run up to over 100° on fast running curds. It certainly makes them much harder to stir and more difficult to get the whey expelled. I found that the comparative results of high *v.* low cooking was not affected by either a fast running curd or a slow one.

*The Effect of Setting the Milk at Different Degrees of Ripeness.*

As in the last one the milk in this experiment was first mixed in one vat and then divided into three.

The weather at this season of the year is usually very warm, and the milk so ripe that no time can be lost, so we had to choose a very cool morning for this test.

The first vat was set as soon as possible after the milk was received, the second one after an interval of an hour to one and a-half hours, and the last one from two to three hours after the first one was set. The last one was always very ripe, and the whey removed in about an hour and a-half from the time of setting.

The average lb. of milk for 1 lb. of cheese is as follows: In the vats set first and those set last it is just the same, viz., 10.13, and in the vats set at a medium stage of ripeness it took 10.10 lb. of milk for 1 lb. of cheese, or just a trifle less than in the case of the others.

When these cheese were scored by Prof. Robertson those set the sweetest stood 1 point higher than the others set at a more advanced stage of ripeness.

One thing in connection with this test surprised me not a little, however, and it may surprise others. Notwithstanding the fact that there was from two to three hours difference in the time of setting the different vats containing the same milk previously mixed, I could not by the closest possible attention tell in which vat the acid developed first or which was ready to have the whey removed first, for, in fact, all three curds went through the different stages of the process exactly at the same time, developing the same amount of acid and being ready for the hoop all together. This was invariably the case.

This surely proves that acid develops as fast after the rennet is added as it does before, and that no time is gained by waiting for acid to develop in the milk.

Of course in the case of very "gassy" milk it would be somewhat different, but it is in the fall when the weather is cold and the milk usually free from taints and ferments which give rise to pin-hole curds, etc., that the tendency is to resort to the practice of over-ripening the milk, with the idea that it hurries the work and shortens up the days' labor.

Now, I do not wish to be understood as condemning the practice of ripening milk to a reasonable degree, for I believe every maker should have a standard to go by in order to secure uniformity in the quality of his cheese; but I do know that many cheese-makers have carried the thing to excess, on the mistaken idea that any time lost in waiting for the milk to ripen is more than compensated for by the time gained afterwards.

*The effect of Piling* vs. *Not Piling of the Curd.*

After a large number of experiments on this line we do not find that it is an essential point in the making of fine cheese whether you pile the curd while maturing in large heaps or allow it to remain spread out; at the most it seems to be a question of maintaining the temperature in the curd.

*The effect of Early* vs. *Late Milling of the Curd.*

In the course of these tests the curd was milled at different stages from an hour after removal of the whey up until just before the time of salting. As in the case of the preceding test, I did not find that it was an important point at all, for in the majority of cases there was no appreciable difference in the results.

In one or two cases where the curd was rather moist, the early milling naturally had the effect of drying it out.

You will have noticed that I have not said anything about loss of fat in the whey in any of these experiments. The fat found in the whey varied from .10 to .25 per. cent, and I did not find that because the milk was rich in fat, that the whey would be rich also. It frequently happened that the whey from the rich milk showed less fat than that from the poor milk. The amount of fat in the milk was no indication of what would be in the whey.

I found that the way in which the curd was handled when soft had more to do with variation in the per cent. of fat in the whey than anything else did. If it was cut a little soft or stirred roughly on the start there would be more loss than there should be, but in none of our tests did it go higher than .25; the average for all the tests is 15 per cent. of fat.

A special bottle holding twice the usual quantity, was used in testing the whey. I find these bottles very useful for testing whey or skim-milk.

A Member: Were the experiments made in different months?

Mr. Ruddick: Yes. In June, July and August. We would make one experiment one day, and wait perhaps several days before making the next.

A MEMBER: Did you get the curd out of it according to the fat?

Mr. RUDDICK: Although we found a little more cheese to the fat in the poorer milk, in the case of the richer milk there was a decided improvement in the quality of the cheese.

Mr. ASHLEY: Then it would look as if the man who sends the poor milk gets more a pound for his milk than the man who sends richer milk?

Mr. RUDDICK: Hardly that, but the amount of cheese is not increased in proportion to the amount of butter-fat. The quality of the cheese is improved, however.

A MEMBER: What about the quantity of rennet used? Some say that by using a large amount of rennet, you can get the cheese ripened for market all the sooner.

Mr. RUDDICK: I can only say that in one vat we put three, in another six, and in a third nine of rennet, and in the one where the nine was used, the milk was fit to cut in eight minutes. At the end of four months, you could not tell in which case the most or least rennet was used.

A MEMBER: Some boards complain of too much rennet.

Mr. RUDDICK: The more moisture you incorporate into the cheese the quicker you can cut it.

A MEMBER: What is the result of using too much rennet?

Mr. RUDDICK: Practically none. However, if you use too much, the milk will curdle so readily that it will be very difficult to handle it in time. The more rennet you use, the more the curd must be stirred to get rid of the moisture.

Mr. MCEWEN: A lot of our cheese-makers say, "Do not ripen the cheese too much." They tell us that if we leave it in for say three hours, there will be injury from whey soaking. Mr. Ruddick says that they have left it five hours without any.

Mr. WHITTON: If you get up a heat of say 85° there will be little if any danger of whey soaking. There is often too much moisture in the curd from setting too long rather than from too much rennet. Better piling is much needed.

Mr. RUDDICK: Pile the curd up in the vat and it will not assume that flakey or fibrous condition.

A MEMBER: Some seasons of the year the milk comes in very gassy from nearly every direction. Now in such a season how would you deal with it? You could not send it all home.

Mr. RUDDICK: I would ripen that milk more than I would ordinary milk, and would just use my judgment in doing so. Keep the temperature up to between 90 degrees and 94 degrees until the curd is ground. I am sorry to say that much of the curd is put to press too warm.

Mr. MCEWEN: In the case of gassy curd did you find any difference in ripening by piling and not piling in getting rid of the flavor?

Mr. RUDDICK: Not very much. In the case of gassy milk, I would use a little more rennet and a little more salt.

A MEMBER: Do you ever have any trouble through letting your curd stay in five hours?

Mr. RUDDICK: No; but we give it less stirring.

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## THE TALE OF A CHEESE.

Mr. C. C. JAMES, Deputy-Minister of Agriculture, was introduced, and spoke as follows: If your early education was not sadly neglected your are doubtless familiar with the old nursery story of the wonderful "House that Jack Built":

"This is the house that Jack built."
"This is the malt
That lay in the house that Jack built,"

and so on until we come to

"This is the maiden, all forlorn
That milked the cow with the crumpled horn
That tossed the dog
That worried the cat
That killed the rat
That ate the malt
That lay in the house that Jack built."

There is a natural sequence in this story, a rhyme and reason in this tale that has suggested to me a line of thought in connection with our dairy industry :

"This is the *Cheese* that Jack built."

The production of cheese in Ontario in 1891 was 82,000,000 lb. worth $7,700,000 Going back forty years and comparing the growth of our cheese industry with our population we have the following :

| Year. | Population. | Total No. milch cows. | Cheese made. lb. |
|---|---|---|---|
| 1851 | 952,004 | 296,924 | 2,300,000 |
| 1861 | 1,396,091 | 451,640 | 3,000,000 |
| 1871 | 1,620,851 | 638 759 | 16,000,000 |
| 1881 | 1,926,922 | 782,243 | 50,000,000 |
| 1891 | 2,112,989 | 800,000 | 82,000,000 |

The great development has taken place since 1861, in fact we may be more specific and say that since the introduction of the co-operative factory system in 1864, and the organization of the Dairy Association in 1867, the growth of the cheese industry of Ontario has been such as to be unequalled by any other industry in Canada.

If we take an ordinary cheese, 10 inches high and 14 inches wide, to represent the annual product just before the factory system was introduced, we shall have to represent the produce of 1891 by a cheese two and a half feet high and three and a half feet wide, a cheese 27 times as large as the former.

The product of Ontario in 1891, if made into one cheese, would stand a little over 90 feet high and would be 120 feet broad. This is the cheese that Jack built, and a very fair-sized cheese it is.

"This is the *Milk*
That went into the cheese that Jack built."

In 1891 it took 866,000,000 lb. of milk to make the Ontario cheese ; in 1884 it took 540,000,000 lb. of milk to make the 53,500,000 lb produced in that year. Now let us glance at a table taken from the report of the Bureau of Industries for 1891 :

| Year. | Factories in operation. | Quantity of— | | Gross value of cheese. | Average No. of patrons. | Average No. of cows. | Milk required to make 1 lb. cheese. | Value of cheese per 100 lb. |
|---|---|---|---|---|---|---|---|---|
| | | Milk used. | Cheese made. | | | | | |
| | No. | lb. | lb. | $ | | | lb. | $ c. |
| 1891 | 838 | 865,453,574 | 81,929,042 | 7,656,484 | 45,066 | 296,194 | 10.56 | 9 35 |
| 1890 | 817 | 836,387,516 | 79,364,713 | 7,189,957 | 44,838 | 304,584 | 10.54 | 9 06 |
| 1889 | 784 | 760,146,327 | 72,592,847 | 6,787,619 | 43,215 | 273,231 | 10.47 | 9 35 |
| 1888 | 737 | 686,369,013 | 65,299,751 | 6,031,470 | 42,065 | 256,780 | 10.51 | 9 24 |
| 1887 | 737 | 691,934,579 | 65,638,656 | 6,918,913 | 42,512 | 254,510 | 10.54 | 10 54 |
| 1886 | 770 | 654,703,243 | 63,721,621 | 5,893,818 | 37,665 | 237,106 | 10.27 | 9 25 |
| 1885 | 752 | 733,437,254 | 71,209,719 | 5,781,569 | 44,208 | 260,244 | 10.30 | 8 12 |
| 1884 | 751 | 685,964,727 | 66,939,573 | 6,998,889 | 38,646 | 254,852 | 10.25 | 10 46 |
| 1883 | 635 | 539,696,197 | 53,513,032 | 5,589,339 | 32,636 | 193,840 | 10.08 | 10 45 |
| 1883-91 | 758 | 717,121,381 | 68,912,106 | 6,538,673 | 41,206 | 259,038 | 10.41 | 9 19 |

From 1883 to 1891 the amount of milk required to make a pound of cheese has increased and with great regularity. The difference seems small, but apply it to the entire product as follows: If the milk of 1891 had been rich enough to produce a pound of cheese from every ten pounds, the product would have been 86,545,357 lb. or 4,616,315 lb. more than it actually was. The dairyman of Ontario should take fair warning; they are drifting too far away from the 10 to 1 ratio, and the quality of the cheese must necessarily depreciate the farther from it they drift. This is a warning for feeders and breeders rather than for the cheese-maker.

Now, let us ask as to the reason for this falling away, or this increase in the quantity of milk required per lb. of cheese. The following reasons are suggested:

1st. We are, in many cases, making a firmer cheese—one containing less water and more solids than formerly.

2nd. The tendency of our breeding and selection, owing to paying for quantity and not for quality, has been biased towards thinner milk.

3rd. The food produced upon our soil may be depreciating in nutrition, owing to the wearing out of our soil by over-cropping and grain-selling.

4th. Perhaps it would be dangerous to suggest that some farmers may have the mistaken belief that the pump is of much assistance in increasing the cheese product.

The introduction of the Babcock tester into cheese factories and dairies, whereby the cheese-producing value of milk can be determined, will make the work more scientific and satisfactory, and give the dairymen a better hold upon their work. This one point should be ever kept in mind that the cheese is made out of the milk, and the milk alone; and hence good cheese must be brought to the factory in the milk-cans if good cheese is to be sold from the shelves of the curring-room. The cheese-maker cannot make good cheese and lots of it unless the producers furnish him with milk of good quality and in large supply.

"This is the *Cow*,
That gave the milk
That went into the cheese that Jack built."

You cannot have cheese without milk, and you cannot have milk without milk-producers. But what a wonderful difference there is in cows! The average Ontario cow produces nearly 4,000 lb. of milk in a season, or 125 to 130 lb. of butter. Let us look at these two records:

Pauline Paul (Holstein) gave 1,157 lb. of butter in one year.
Signal's Lily Flagg (Jersey) gave 1,046 lb. of butter in one year.

Between the 125 and the 1,000 lb. there are thousands of records, but what a long distance it is, and, then, there must be as many that fall below the average as that go above it. The 1,000 lb. yearly record simply shows what a wonderful improvement the cow is capable of, and this improvement can be brought about, no matter what the breed or who the breeder, only by the following:

1st. Good breeding.
2nd. Good feeding.
3rd. Selection.

As to good breeding and selection let us pass over them for the present, and say a word or two about good feeding:

"This is the *Food*,
That was fed to the cow
That gave the milk
That went into the cheese that Jack built."

The cow is a machine, delicately wrought, marvellously strung together and acutely responsive to surroundings—a living machine, but yet a machine. That is, she can merely work over into milk that which she gets in her food, although one machine may be built to do the work more thoroughly and more economically than another.

The cheese-maker cannot make cheese unless there is cheese in the milk; no more can a cow make milk unless there is milk in the food. There must therefore be comparatively rich food. Making bricks without straw is easier than making milk out of merely water and vegetable fibre. There must be wholesome, palatable, attractive food—here comes in the silo and soiling: Green food the year round, grass in winter as well as in spring,

green food in the drouth as well as in the moisture. Then there must be cleanliness. Good cheese cannot be made in a dirty room, no more can good milk be made unless the air be clean, the water clean, the food clean and the machine clean. Lastly, if the quantity is wanted the cow must be kept on the go, milking ten months at least, and the only way to do that is to *bring her up* right. Habit and education are the secret of continued milking.

But where is the food to come from?

"This is the *Soil*
That grew the food
That was fed to the cow
That gave the milk
That went into the cheese that Jack built.

Now, we have come down to the foundation from cheese to milk, to cow, to food, to soil; and dairymen to be successful must recognize the natural law of cause and effect running through this sequence.

In order that our soil may be increasingly productive and grow milk-rich food the following necessities must be ever kept in mind:

*The soil must be well cultivated* in order that the air may get below the surface and continue the operation of soil-making upon the hard and rocky material still undecomposed. The roots of plants, as well as the leaves, need air, and the farmer will find the air above his soil the most willing and valuable servant that he can employ, and the only condition upon which it will work is free admission to the soil.

*The soil must be well drained* in order that the root may be enabled to go deep down in search of food, and that the valuable surface-soil may be deepened by the admission of air; also in order that the rains may be enabled to go through the soil, so as to lay down their valuable load of plant food taken up from the air, and that the drouths may be resisted.

*The soil must be well manured* in order that the soil shall not be exhausted by continual cropping. Dairying is one of the best methods of ensuring an improvement of the soil, provided proper care is taken of all the manure, and it is returned to the soil in its complete condition.

*The soil must be well cleaned* in order that the limited supply of soluble plant food in the soil may be all saved for the feeding of the valuable plant. Even if the weeds are returned to the soil, and even if they do not take away from the farm what they feed upon, yet they are a source of loss to the farmer in that they prevent the valuable plants from getting their full supply of food, and thereby keep down the productions of the soil—they decrease the interest on the farmer's capital.

The agitation in favor of dairying is gaining in force. More men are going into it, more cheese factories and creameries are being constructed, experimental work is being greatly enlarged, and bulletins and reports are in everybody's hands. The question has again and again arisen as to the possibility of overdoing the industry, and pushing the production beyond paying limits. The question is worthy of careful consideration and we may here present a few facts in regard to it.

Under my first division I showed that the product of this Province has increased from 3,000,000 pounds in 1861 to 82,000,000 pounds in 1891, and under my second division I gave the yearly output from 1883 to 1891 inclusive. We must remember that the other Provinces are entering this field as strong competitors with Ontario. Quebec has been in the business about as long as Ontario. The same year, 1864, that the two first factories were erected in Ontario near Norwich by Harvey Farrington and Andrew Smith, a factory was erected at Dunham, Quebec, by a man named Eber B Hill, and since then factories have been multiplying in that province. It may not be out of place in this connection to refer to the contention that has again been made, that Quebec is the pioneer in the cheese industry. The *Canada Farmer* of January 16th, 1865, reprinted a letter addressed to the *Montreal Gazette*, dated Dunham, Mississquoi County, C. E., December 31st, 1864. It begins thus: "An enterprise has been recently started at this place, namely, a cheese factory; a building with all the appurtenances which are necessary for making cheese upon *a large scale* and with the best economy of time and space, etc." $5,000 was subscribed and 500 cows pledged. The *Canada*

*Farmer* in the same page calls attention to the fact that to Ontario and not to Quebec belongs the honor of starting the first factory. While we are on this point we may add a few facts to this historical point. In the *Canada Farmer* of October 1, 1864, will be found a two column letter by Prof. George Buckland, written September 21. Prof. Buckland had been visiting the cheese factories of Oneida, Otsego and Herkimer Counties, New York State, and after an interesting description of their working, he urges the Canadian farmers to erect factories. In the same paper of November 1, 1864, is a reference to the factory of Mr. Andrew Smith, of Norwich, and a description of that of Mr. Farrington taken from the *Hamilton Spectator*. The milk of 130 to 140 cows was used. We quote the closing sentences: "In this room of Mr. Farrington's factory we found 200 cheeses, weighing about 80 pounds each. They are intended for shipment to England. Another very important item about the factory is the whey, which in this establishment has been used and has fed some fifty hogs during the season with the addition of a very small quantity of grain. As to the cheese made, we can vouch for its being quite equal to any American cheese we ever tasted."

While we are quite willing to allow Quebec to have her full share of credit we cannot admit her priority of claim; but at the same time we must look to ourselves that she does not outrun us in the race for the British markets.

The eastern provinces are also coming to the front, Manitoba is moving, and the Territories last year organized at Regina a dairy association. The growth in the total product of Canada may be judged from the surplus the amount of cheese of domestic manufacture exported. We take the following from the Trade and Navigation returns:

| Year. | Amount lb. | Value $. |
|---|---|---|
| 1866 | 974,736 | 123,494 |
| 1871 | 8,271,439 | 1,109,906 |
| 1876 | 37,885,256 | 4,050,008 |
| 1881 | 49,255,523 | 5,510,443 |
| 1886 | 78,112,927 | 6,754,626 |
| 1891 | 106,292,140 | 9,508,800 |
| 1892 | 118,270,052 | 11,652,412 |

In 1892 out of the total export of 118,270,052 pounds, the amount sent to Great Britain was 117,703,193. We must therefore take a survey of the British market to see whether it will warrant any further development.

In my address to this Association last year, page 23, I gave the exports of Canadian cheese from 1866 to 1891. I here present a table of the imports of cheese by Great Britain for the same period:

| Year. | Value £. | Quantity cwt. | Per head lb. |
|---|---|---|---|
| 1866 | 2,801,579 | 872,342 | 3.1 |
| 1867 | 2,555,263 | 905,476 | 3.3 |
| 1868 | 2,565,213 | 873,377 | 3.2 |
| 1869 | 3,083,850 | 979,189 | 3.5 |
| 1870 | 3,274,331 | 1,041,281 | 3.7 |
| 1871 | 3,341,496 | 1,216,400 | 4.3 |
| 1872 | 3,031,977 | 1,057,883 | 3.7 |
| 1873 | 4,061,456 | 1,356,728 | 4.7 |
| 1874 | 4,483,927 | 1,485,265 | 5.1 |
| 1875 | 4,709,508 | 1,627,748 | 5.6 |
| 1876 | 4,237,763 | 1,531,204 | 5.2 |
| 1877 | 4,771,393 | 1,653,920 | 5.5 |
| 1878 | 4,946,686 | 1,968,859 | 6.5 |
| 1879 | 3,824,017 | 1,789,721 | 5.8 |
| 1880 | 5,091,514 | 1,775,997 | 5.7 |
| 1881 | 5,245,115 | 1,840,090 | 5.9 |
| 1882 | 4,749,870 | 1,694,623 | 5.4 |
| 1883 | 4,890,400 | 1,799,704 | 5.7 |
| 1884 | 5,001,635 | 1,927,139 | 6.0 |
| 1885 | 4,069,344 | 1,833,832 | 5.7 |
| 1886 | 3,871,359 | 1,734,890 | 5.4 |
| 1887 | 4,514,382 | 1,836,789 | 5.6 |
| 1888 | 4,546,408 | 1,917,616 | 5.8 |
| 1889 | 4,490,970 | 1,907,999 | 5.7 |
| 1890 | 4,975,134 | 2,144,074 | 6.4 |
| 1891 | 4,813,404 | 2,041,325 | 6.0 |

The preceding table shows a fairly regular increase in the total imports of cheese, and is an indication that Great Britain may be considered equal to the consumption of at least 225,000,000 pounds of cheese annually.

The next question arises as to the competitors for that market. According to British trade returns the following were the principal sources of supply for British cheese market.

| | 1889 cwt. | 1890 cwt. | 1891 cwt. |
|---|---|---|---|
| Canada | 675,515 | 837,890 | 857,841 |
| United States | 825,670 | 919,408 | 774,893 |
| Holland | 328,096 | 292,215 | 307,925 |
| France | 32,941 | 40,364 | 43,756 |
| Australasia | 7,137 | 28,992 | 29,702 |
| Other countries | 38,640 | 25,205 | 27,208 |
| | 1,907,999 | 2,144,074 | 2,041,325 |

We thus see that hitherto the United States has been our principal competitor, and Canada has now gained the lead. Is the United States likely to increase her exports and forge ahead once more? To help in answering that question let us take a look at the exports of that country for ten years.

U. S. Cheese Exports, 1882 to 1891.

| | Total Exports | | Exports to Great Britain | |
|---|---|---|---|---|
| | Quantity lb. | Value $. | Quantity lb. | Value $. |
| 1882 | 127,989,782 | 14,058,975 | 121,904,755 | 13,369,308 |
| 1883 | 99,220,467 | 11,134,526 | 91,582,055 | 10,210,454 |
| 1884 | 112,869,575 | 11,663,713 | 102,680,747 | 10,508,532 |
| 1885 | 111,992,900 | 10,444,409 | 100,336,551 | 9,299,361 |
| 1886 | 91,877,235 | 7,662,145 | 81,442,670 | 6,773,843 |
| 1887 | 81,255,994 | 7,594,633 | 72,630,458 | 6,747,869 |
| 1888 | 88,008,458 | 8,736,304 | 77,627,517 | 7,504,121 |
| 1889 | 84,999,828 | 7,889,671 | 72,304,393 | 6,620,905 |
| 1890 | 95,376,053 | 8,591,042 | 81,875,298 | 7,324,531 |
| 1891 | 82,133,876 | 7,405,376 | 71,104,253 | 6,343,749 |
| 1882 to 1886 | 543,949,959 | | 497,946,778 | |
| 1887 to 1891 | 431,774,209 | | 375,541,919 | |
| Decrease | 112,175,750 | | 122,404,859 | |

We see that the exports for the five years 1887 to 1891 were *over one hundred and twelve million pounds less* than for the five years 1882 to 1886, and the decrease in exports to Great Britain was ten millions more. The total exports of Canadian cheese for the same period were :

| | |
|---|---|
| From 1882 to 1886 | 336,372,153 pounds |
| " 1886 to 1891 | 446,774,879 " |
| Increase | 109,602,726 pounds |

We see by the above that Canadian exports of cheese have been increasing at about the same rate that the U.S. exports have been decreasing. This is owing, doubtless, to the development of the home market of the U.S. through the wonderful city growth, and the probability is that the U.S. exports will continue to decrease, and we can look for a still larger share of the British market. In fact I think we may even hope to find ere long a market in the eastern manufacturing states for some of our cheese.

Then we have the neglected home market which should be able to consume from 30,000,000 to 40,000,000 pounds annually, if properly looked after.

As for Australian and New Zealand competition, although we are thousands of miles nearer Britain, we must not overlook these new competitors.

No matter in what direction we look for markets, towards Great Britain, towards the U.S., or towards home, we must remember that markets can be found and held only by stamping our cheese with this one characteristic—High Quality.

Let us return to our tale. The dairyman must begin at the bottom and work up; improved soil means improved food, which fed to improve cows means improved milk,

and improved milk means improved cheese—with one proviso. This brings us to the last point, viz, the consideration of *Jack* who works the soil and grows the crops, who breeds, feeds and milks the cows, who handles the milk and who makes the cheese. Keep this ever in mind that the man is of foremost importance; upon his habits and inclinations, upon his ambitions and determinations, upon his education and training, all will depend. Therefore, we must assist by every method that we can devise the man and the woman, that they may be helped and encouraged in the training of themselves for the great dairy industry. There is a possibility of development in connection with our soil and our cows that we little dream of, and it must be done by first improving the men and women who are engaged in the dairy industry. Let us now carry away and think over the important connection of the six factors of this entire question:

"This is the *soil*
That grew the *food*
That was fed to the *cow*
That gave the *milk*
That went into the *cheese*
That *Jack* built."

Mr. Daly: I understand Mr. James to say that cheese-makers of the present day require a little more milk to make a pound of cheese than was the case some years ago. I also understand him to say that that is attributable to a certain extent to a deterioration in the quality of the milk now sent to cheese factories. I would like to know to what this deterioration should be attributed?

Mr. James: What is the milk made from? From the food, of course. And where does the food come from? From the soil. I think that the loss in the character and quality of the milk is to a certain extent to be attributed to the depletion of the soil.

Mr. Daly: Is it not a fact that we make a better cheese than formerly? We now make a firmer cheese, which requires more milk in its manufacture.

Mr. James: The better the milk the more cheese you can make from it. And if you can still further improve the milk you should be able to get back to the old record. Until we can reach an average of ten lb. of milk to one lb. of cheese, we should not be satisfied.

Mr. Switzer: I made a factory cheese the other day something after the old style cheese. I scalded up to 98 degrees, and when the curd was nicely stirred I made it up without allowing it to mat. It made a nice, soft, rich cheese, and the grocer said: "Why don't you make something like that all the time? That's the kind of cheese." I made that cheese from eight pounds of milk. I also made a nice cheese from only seven pounds of milk, and it was so rich that I could spread it like butter. At present we are not selling so much water. We are making a firmer cheese. We are after a different kind of coin now; we are reaching for the gold and not for the dross.

The Convention then adjourned to meet at eight p.m.

## FIRST DAY.—EVENING SESSION.

There was a large attendance when the President called the gathering to order at eight o'clock.

## ADDRESS BY PROF. SAUNDERS.

Prof. Wm. Saunders, Director of Dominion Experimental Farms, Ottawa, was introduced, and delivered the following address: I much regret that I am not feeling in good condition for speaking this evening; in fact, I have been in poor health for the last two or three weeks. But I must say that it affords me much pleasure to be with you, and to contribute what I can in the way of information to this large gathering of representative farmers and dairymen, more especially as this is the first time I have had the opportunity of meeting with the agriculturists of the Kingston district. I was not on the programme, but since it has been found impossible for Prof. Robertson to leave England as early as he expected, it was thought best that I should come and do what I could to fill his place.

As many of you may not have seen the accounts which have been published of what Prof. Robertson has been doing in England, I thought I might occupy a few moments in explaining to you his mission there; and I may say that I believe that mission has been very successfully accomplished. His main object was to spread abroad amongst the people of the old land information as to the excellent quality and abundance of the food products of Canada, and to awaken in the minds of the large handlers of these products in the great cities of Britain an increased interest in regard to Canadian goods. There is at present throughout Great Britain quite a strong feeling in favor of using Canadian goods such as cheese, and, if we can only send it in quantities and good enough, butter also. Canadian apples and Canadian bacon are now held in great esteem. Our bacon commands a higher price than that from most other countries, and our cheese about $\frac{3}{4}$ of a cent higher than that sent from the United States, which means some $300,000 to $400,000 gain to our cheese-makers. I am glad to be able to say in this connection that the total exports of Canadian cheese last year exceeded those of the previous year by about $2,500,000. Prof. Robertson has addressed the members of the Produce Exchanges of London, Liverpool and Glasgow, and has been able to sell the cheese he brought with him at two or three shillings a hundred weight higher than any price yet received for Canadian cheese in the British market. He also had some butter made by the creamery carried on under his direction on the St. John River in New Brunswick, for which a good price has been realized. He has brought Canadian butter prominently before the dealers in some of the larger cities of England, with a view to paving a way for an increased demand for Canadian butter. In Great Britain quality seems to be the most important consideration when introducing food products. I have seen in Covent Garden Market, in London, England, apples selling for ten times the price at which other apples just beside them were offered. In the one case the specimens were carefully selected, and were just such sorts as a man would choose as a pretty ornament for the table, while the other apples were fit only for culinary use. The British market is a fastidious one, and the consumer will pay almost any price provided the article is of the highest quality. The butter Professor Robertson sent over last year, made at Mount Elgin and Woodstock, was at first difficult to introduce on account of the prejudice against Canadian butter—a prejudice too well founded. So bad was the reputation of Canadian butter that many merchants would not at first believe that good butter could be made here. But when this creamery butter was put on the market it sold readily, and for a price just as high as the best Danish. Such prejudices can easily be removed if we will send only goods of such quality as will do us credit. We often hear a good deal about "over-stocking the market." The Fruit Growers of Ontario have often discussed this subject at the meetings of their Association. Some greatly feared the over-stocking of the market with fruit. But that has not yet occurred; on the contrary it has been found that the more good fruit was offered the more people will consume it. There is an unlimited demand for everything that is of the best quality in the way of food products. In the fruit market it is the inferior grades—the culls—that are unsaleable; and as soon as we have all our bad butter replaced by a first-class article there will be twice as much consumed at home and five times as much abroad. There was a time when our cheese was not at all equal to what it is now. In the early days of this industry the "Ingersolls," as they were called, were held to be the best, but they were surrounded and had their price lowered by inferior Canadian brands; but now there are Brockville, Belleville and other brands equally good to support them, and the whole product of Canadian cheese factories has been lifted to a higher plane in public estimation. When we review the rapid growth this industry has made in Canada during the past few years, it seems astonishing. I suppose there has never been any department of agriculture in this country which has prospered to the same extent, and the results achieved would never have been reached but for the fact that there has been co-operation among the farmers through the cheese factories and dairy associations. These have been the groundwork of the success of this great industry. You in the east, as well as those in the west, deserve credit for the prominent part you have taken in building up the trade in cheese, and we are hoping for similar progress in regard to butter. It has often been asked, "How can butter-making be carried on to any extent without interfering seriously with the output of cheese? That trade has been established, and it would be a

pity to interfere with it." It is believed that there is room for both, and our aim is to induce farmers to carry on the milking of cows through the winter months, and extend the period of lactation from five or six to ten or eleven months. This can be brought about by persistent milking, and the farmer who does that and feeds his cows well will find that he has a largely increased quantity of milk to dispose of, which will add much to his yearly gains.

Some three years ago when Prof. Robertson was appointed Dairy Commissioner for the Dominion, he began to prepare plans for the promotion and encouragement of the dairy industry all over the country, and at first his efforts were devoted to aiding the cheese business. Here was an established industry giving a considerable return to the farmers of the country, but much of the cheese made was of an inferior quality. When the products of our factories were sent to Montreal for export, they were inspected; the best were sent abroad, and the culls were thrown upon the home market. Formerly it was hard to find in our groceries anything but inferior cheese. At that time, also, Quebec cheese rated about one cent or a cent and a half lower than that made in Ontario. Through the efforts of Prof Robertson and his assistant in Quebec, Mr. Chapais, aided by the dairy instructor, Mr McDonald, that state of affairs has about disappeared, and the Quebec cheese now is about as good and uniform in quality as that made in Ontario. I am glad to say that there has been also an improvement in Ontario in this respect. All this has resulted in gain to the farmers from the increased price they have received for their products. Prof. Robertson's idea was to endeavor to make this improvement general over the whole Dominion, and with this view two instructors were selected to work in Ontario, one to operate in the east, and one in the west; two were selected to work in Quebec, two were chosen for the Maritime Provinces, and two others were sent to the North-west. This made eight dairy instructors who were actually engaged all the time in this work. These gentlemen were sent to certain dairy centres, and moved from time to time to others, varying their plans to suit the needs of the country. They gave instruction to cheese-makers and their patrons, and also carried on experiments in different lines of work, for instance to determine the effect of different degrees of temperature on cheese at different stages in its manufacture, what proportion of rennet it was desirable to use in making the best quality of cheese, and how far the amount of butter-fat affected the quantity and quality of cheese made from different samples of milk. Now there is nothing that has done so much to help Canadian cheese in its competiton with that made in the United States as the fact that our people do not make "filled" cheese by taking out some of the butter-fat and putting in lard or other fats to make up for the loss. In some parts of the United States this practice has been carried on to a great extent, much to the detriment of the reputation of their cheese; but all over the world Canadian cheese is known as full cheese, there being no "filled" or skim-milk cheese made in Canada. Our cheese may sometimes be deficient in other respects, but it has always had its full and normal proportion of butter-fat. (Applause). At a meeting recently held at Liverpool, which Prof. Robertson attended, a buyer present said that Ontario cheese was not always moist enough to suit the taste of his customers, but that Quebec cheese was made to suit the requirements of his particular district. Prof. Robertson in reply said that when he returned to Canada he would make it his business to impress upon the minds of our cheese-makers the necessity of making their goods to suit the taste of their customers in every part of the old country. He spoke very hopefully of what our people were willing to do in regard to this matter of better butter and cheese, and I think that when he returns he will be inclined to severely lecture those who may be careless in their methods, and will urge the importance of strict care and attention to every detail in manipulation, which is likely to improve our products. He took up the question of pork also, and pointed out the advantages which this country possessed for the raising of prime beef and pork. There is no reason why we should not make our exports five times greater than they are now in all these branches; indeed, there is practically no limit to what this country may produce in the way of articles of food.

In carrying on winter butter-making, it is necessary that there should be associated with the feed given to cows succulent material such as ensilage, in order to keep up the flow of milk. If you undertake to feed your animals on dry fodder you will find it

difficult to keep up the flow of milk to the point desired. We have in ensilage the closest approach we can hope to get to the green feed upon which animals thrive so well in the early summer. Upon the Experimental Farm at Ottawa many varieties of corn have been tested with a view to determine which will give the best results; also whether other crops can be used to advantage in this way. Similar experiments have been conducted at the branch experimental farms also with mixed grain put into the silo. These experimental farms have been established for the benefit of the farmers, and the idea which the Hon. Mr. Carling, the late Minister of Agriculture, had in view in establishing these institutions, was that all such experiments should be carried on at the expense of the Government at five or six different points in the Dominion, such as would afford a reliable basis upon which farmers could build, and at the same time save them the time and money it would cost to carry on these experiments and gain the experience for themselves. The results of all this work are given in the reports and bulletins which are published at the Central Experimental Farm at Ottawa, and these can be had by any farmer for the asking. I do not propose to take up much of your time to-day in talking upon the subject of ensilage, for I understand that that is to be fully handled by another speaker to-morrow. I may say, however, that some experiments have been carried on during the past year by Prof. Robertson in using mixtures of plants in order to make the ensilage a more complete ration. One of the experiments made has been the growing of Russian sunflowers and cutting and using the heads, the seeds of which are very oily, with a view of supplying fat in which the corn is very deficient. In making this ensilage, corn and sunflower heads were fed into the cutter alternately, and it is believed that this mixture will be most useful, as the sunflower seeds add a very important ingredient. It has been found necessary when feeding corn ensilage to add a few pounds of mixed grain or bran, but it is hoped that the addition of the sunflower heads will make the food so complete that it will need very little, if any addition. Experiments have also been conducted in growing beans with corn, and the whole grown together in order to add the nitrogenous matter in which beans are so rich. All the plants belonging to the bean and pea families—the legumes—are like clover, in that they not only take nitrogen from the soil but from the air also. Peas have been tried for ensilage, and they make a rich food, but the ensilage made in this way at Ottawa has not kept well, and has had an offensive odor, although the cattle would eat it readily. Possibly this may have resulted from defective treatment, but that can be proven only by furthur experiments. In the meantime, farmers will do well to supplement ensilage with a reasonable allowance of provender by grinding coarse grains. In the past our farmers have been selling too largely of their coarse grains. Every bushel of barley, wheat, oats or other grain takes from the land certain elements of fertility, and if you keep selling this off your land, the soil after a time will become impoverished and cease to give good returns unless these important elements are restored by judicious fertilizing. Now, if these coarse grains are fed, animals have the faculty of taking from them mainly those portions or substances which have been derived from the air, such as starch, sugar, fat, etc., and in their excreta they restore to the soil nearly all the important fertilizing constituents taken out of it by the grain. So you will see how farmers can materially aid in keeping up the fertility of their soil by husbanding the manure, and by judicious treatment in growing crops, improve it instead of letting it run down. From the results of an experiment conducted by Prof. Robertson, the conclusion has been reached that it pays better to feed coarse grains to swine or steers than to sell them at a cent a pound. Not only is the money return larger, but you have in addition all the advantage of the manure being kept on the farm. Seeing then, that these coarse grains may be made to play so important a part in maintaining the fertility of the farm, and making it pay, it will be well to call attention to some other points of importance in this connection. It may be taken as a fixed fact that unless land is enriched from time to time, either by manure from cattle or by artificial fertilizers, it will give out. You know also that if land is not properly drained, crops will not thrive. Some farmers think that any sort of poor grain that they cannot readily sell in the market is good enough for seed. They do not treat their stock in this way if they want to build up a good herd. In such case no one would think of selecting the poorest animals to breed from; and it is just as important in vegetable growth as in that of animal, that the best should be bred from. We

should give our grain crops a good start at the outset by selecting good, plump seed. There is an individuality in every seed as well as in every animal, though often we fail to recognize the fact. The importance of early sowing also needs to be noticed. The speaker then referred to the results of a series of experiments in the sowing of seed, the teaching of which was that early sowing is a most important point. Farmers should prepare as much of their soil as possible in the autumn, so that they could rush their seed into the ground early in the spring, thereby ensuring a vigorous and thrifty root growth, while the ground was cool and thus giving the plants a good start. If there are any points regarding which any gentleman in the audience would like to receive furthur information I shall be glad to give it as far as it is my power to do so.

Mr. Casswell: Would you recommend the horse bean grown in England?

Prof. Saunders: The horse bean was experimented with at Ottawa last year, but only to a limited extent; further tests will be made.

Mr. Casswell: I was going to ask if they will grow in this country as well as they do in the Old Country?

Prof. Saunders: As a rule, they do not do as well in Ontario as they do in England, but in Manitoba and the North-West Territories I have seen excellent results in the way of growth.

Mr. Casswell: The bean blights here if the weather is very warm.

Prof. Saunders: Exactly; the bean sometimes blackens when young here. The horse bean, Windsor and Telephone beans have all been experimented with at the Central Experimental Farm. There are more albuminoids in beans than in corn. The growing of beans and feeding them would enable the farmer to effect a considerable saving of bran.

Mr. Keeley: It is claimed that if you let your cows go dry for two months only it pays as well as winter dairying. They should calve in March and milk until January. I feed forty cows, giving them good grass and corn, oats and peas mixed. They will go dry—so dry that they will not meet expenses—with this extra feed for two months and a half or three months. It is very difficult to get any milk from them from about Christmas until March. You can take the strongest cow and milk her for three years steadily, and no matter how you feed her she will fail in constitution and come down in milk both as regards quantity and quality. I asked Governor Hoard about this, and he told me to go home and ask my mother about it. (Laughter.) I was to ask her whether it was best to let the cow rest one, or two or three months. I went home, and soon had an opportunity of asking two or three old ladies, my grandmother among them. They were well posted on raising stock (laughter), and one was English, another was Scotch and the third Irish. The old Scotch lady said: "Well, my son, I will answer you honestly. My opinion is that a good rest will be best for her." (Laughter and applause.) And that is my opinion, too. Cows do not pay very well after September or October.

Prof. Saunders: There is no doubt whatever that if you milk a cow for ten months and a half you will get a better return than if she is milked for only six months, but you will have to feed her well to keep up a good flow. It will pay you to feed her with richer food and milk her the longer period. I do not know any instance at Ottawa during the past four years where we have not milked for at least nine or ten months. Get the cow to milk as long as you can. Prolong the period of milking, and thus turn more food into butter-fat, and ship butter in larger quantities and of better quality to the old country. Of course the farmer should use his best judgment in selecting the cows he keeps. As to their going dry early, that is often the result of lack of attention and lack of training. If the heifer threatens to go dry early, persist in milking her whether it pays or not, and the chances are good that in time she will form the habit of milking for a longer period.

Mr. Derbyshire: We must teach the cows that giving milk is their particular line of business in this country.

Major Redmond: Does it not wear the cow out soon?

Prof. SAUNDERS: It does not appear to do so. We are milking cows for nearly eleven months, and the milk they give is very rich in butter-fat.

Major REDMOND: Do your cows pay at Ottawa?

Prof SAUNDERS: Experimental farms are not run for money. It is not possible to accomplish much in the way of careful experimental feeding—carefully weighing the food, weighing the animals regularly, and taking full notes of the work—and make a profit. But the experiments will pay the country their cost five hundred fold. (Applause.)

Major REDMOND: Oh, I don't expect those farms should pay; I don't mean it in that sense.

Mr. DERBYSHIRE: I believe these cows at Ottawa and Guelph do make money, if you will count the cost of the food and that of the product, aside from the extra charge of special attention in recording the experiment.

Mr. CASSWELL: Run the cow for what she will produce, and not for what she is worth when she is sold. In England the milkman has no outside money to keep him up like these Government establishments have, but he will push his cows to their fullest capacity. When an English dairy cow is run down the animal is sold and a new one got in its stead.

Mr. GRAHAM: I was just going to speak along this line of wearing out a cow. We have been keeping cows for thirty years, and I am thoroughly convinced that if you will feed a cow for all that she is worth and milk her for all she is worth you will milk her out in three years. But that will pay.

Mr. WHITTON: I am into winter dairying in connection with an experimental creamery at Wellman's Corners. I sent in on Tuesday morning at the rate of nine pounds of milk to each milking, twice a day, from my eleven cows. The cows cost just eight cents apiece to feed. The skim-milk from these eleven cows is making me ten pounds of live pork per day.

Mr. KEELEY: Can you get as much milk from them next year as if they were resting?

Mr. WHITTON: Yes; I will get more.

Mr. ASHLEY: In Hoard's Dairyman you will see an account of a cow that was milked for eleven months without calving. Another gentleman says that his cow is still milking twice a day, and that the daily product weighs thirty pounds. The governments do not spend enough money in the interest of the farmers. It would be well if much of the money spent on canals was to go into good roads.

Mr. CLARK: I wonder if the Government officials at Ottawa have ever used the milk stools on the cows, and if so, what was the effect? A certain farmer got annoyed at the flies, struck at the cow with the milking stool, and she at once stopped milking. (Voices—Served him right.) And he had to get a woman to coax that cow to milk again.

Prof. SAUNDERS: We have a creamery station at London, Mount Elgin, Woodstock and Wellman's Corners, and one in New Brunswick. The farmers in these respective neighborhoods are delighted with these stations. They get from 19 to 22 cents a pound all winter, and the sum of 3 cents a pound covered the actual cost of the manufacture of the butter, and the farmers got the balance after the cost of shipping to England was deducted. They are gratified beyond measure with the result.

Mr. CASSWELL: Last week myself and others were invited to go to Mount Elgin Creamery, and we saw some beautiful butter being made; and they say that the quality of the butter was ahead of anything made at any time during the year. The people of the neighborhood are now anxious to send milk to that factory, so as to get the benefit of the institution. The farmers were satisfied that they had made more butter this winter season up to the time of our visit than they had all last season.

Mr. RUDDICK: I can make it stronger still. We have made more butter during December alone than was made all last year. In Woodstock we have now made about 9,000 lb. of butter while they made only 11,000 all last year. The farmers are highly

delighted with the success so far. One of the leading patrons at Mount Elgin stated at a public meeting the other day, when asked how he was satisfied with the results, that he believed the skim-milk he had returned from the factory paid him for the extra feed he had given the cows. He is one of the hardest-headed farmers in that part of the country, and knows what he is talking about. It is no longer an experiment in that section. In the future these factories will run the year around without any trouble whatever. They are not going to milk their cows the year around, but the plan is to have the cows come in any time of the year. They have the cows served as soon as possible after calving.

A MEMBER: Will the milk freeze?

Mr. RUDDICK: There is little probability of the milk freezing on the way to the factory or creamery.

A MEMBER: How many pounds of milk does it take to make a pound of butter?

Mr. RUDDICK: At the present time—say in November and December—it takes 21.81 pounds of milk to make a pound of butter, but some are making it out of 18 pounds. Every man's milk is tested as soon as it comes in.

A MEMBER: Would it be wise for every cheese factory to put in creamery appliances?

Mr. RUDDICK: I do not think so. Just now we have milk coming in from patrons of ten cheese factories. A number of cheese factories have empowered their directors to make arrangements to run combined factories.

A MEMBER: What is the best separator? (Laughter.)

Mr. RUDDICK: All the separators are good or they would not find a market. However, I do not care to make mention of any particular one. We commenced butter-making on the 22nd of November and will conclude in the latter part of April, when we will begin to make cheese. We make butter in the same room as we will make cheese in the summer.

A MEMBER: What is the expense of converting a cheese factory into a winter creamery?

Mr. RUDDICK: That is a very difficult question to answer. It will cost about $600 for putting in the butter-making apparatus—the separator, churns, butter-worker, etc. We used a 6 horse-power engine and a 12 horse-power boiler at Woodstock, and got along very nicely.

A MEMBER: Do you make the Saturday's milk into butter?

Mr. RUDDICK: We do not make butter or cheese on Saturday night. Some have taken in milk on Saturday night and churned it on Monday. In that case it is necessary to have the butter machinery in a separate room. In one factory in Oxford county they have separate rooms for butter and cheese, and make cheese one day and butter the next.

Mr. MURPHY: I have been requested to give my experience in this line of dairying. I have not much to say, beyond telling of some of the work done in connection with the Elgin Model Factory, of which I am one of the proprietors. Last year we erected a separate building 21 x 31. As we were using a large boiler in our cheese factory, we used the steam generated by it for the butter factory, but put a separate engine in the creamery—a 15 horse-power engine with an automatic cut-off. We made something over 11,000 lb. of butter from the 18th of November up to the day before yesterday (Jan. 16). When I left home a large quantity of milk was still coming in. We get milk from our own patrons, and from those of six or seven adjoining cheese factories.

A MEMBER: We have driven the Alexandria separator and all the other machinery with a 4 horse-power engine and a 6 horse-power boiler.

Mr. CLARK: It seems to me that the most practical way would be to concentrate and have a union butter factory that would not be connected with any one particular cheese factory. It would be very expensive to have one in connection with every cheese factory.

## THE MAN THE CHIEF FACTOR.

Mr. O. C. James, Deputy Minister of Agriculture, being called upon for an address, spoke as follows: The hour is rather late, and my friend Mr. Derbyshire thinks that I should simply pronounce the benediction. Force of habit impels him to retire early so that he may get up early and milk the cows. (Laughter.) Regarding winter dairying we might take a hint from what has been done in many of the dairying districts of the United States. A number of cheese factories in a certain section work in the summer. In the winter they want to make butter, but as there is not sufficient milk to supply all, one in the midst of the group is used, or an additional building is put up for a butter factory. A first-class man is placed in that establishment, and a separator is put in each of the other factories. The farmers simply haul their milk as they did in the summer to their own factories, the cheese-maker being engaged the year around. He weighs and separates the milk, the farmers take home their skim-milk, and the cheese-maker, who has not much to do, will take the butter to the creamery, which serves for the entire district. Reference has been made to the fact that the Ontario and Dominion Government farms have animals of high producing capabilities, and explanation has been suggested that perhaps it is owing to their having public friends at their back wherewith the richest food can be purchased. But the results are not due simply and solely to the feeding; a good deal of attention is also given to the animals. They are placed in good comfortable quarters: they are kept clean and well cared for; but there is nothing in the way of extra expense connected with this winter treatment that cannot be borne by the ordinary farmer. Good feed can be greatly supplemented by good care.

Permit me to speak briefly upon another point. In this hall the portraits of former mayors of the city look down upon us from all sides. Some of these men have made names for themselves that will be recorded in the history of the country. But there are a great many men connected with the real history of this country whose names will never appear upon any public wall or in any published history; yet they are deserving of a high place in the minds and hearts of every citizen who has regard for the memory of the men who helped to make our country what it is to-day. The men who came into this then almost unknown land and laid the foundation of our agricultural system are worthy of remembrance. And so also in the case of the men, for instance, who started the lassociations similar to the one now meeting here. They are men whose memories shoud be kept before the public. The officers of these associations are men who are playing a more important part in the history and development of the country than are many whose names appear in records of political life. The men who spent time and energy in laying the foundation of this Association, and those who have since carried it on, are men who are contributing very largely to making the wealth and comforts and pleasant surroundings of this country possible. After all, it is the man more than the land, it is the man more than the cow, it is the man more than the milk or the cheese, and if we start out with this one thing—that the man who handles the cow, the milk and the cheese must be the very best man we can find, we are on the path leading to greater success. Look at other walks of life and at other lines of work in our towns and cities and you cannot but see one thing. No matter what line of business a man is going into—whether it is to be a doctor, or a lawyer, or a merchant—there is nothing too good in the way of education for him. Nothing can be done too fully by society or the state to give such a person the highest equipment. He cannot know too much for his business. When it comes to farming, however, we are often satisfied with too little. But as farmers are in the greatest number in this country, and have from the land created the greatest amount of wealth, they should be demanding more and more attention, and more and more help in their education. We should not be satisfied with what has already been done: we should not be satisfied with the fact that there are eight or ten men going about giving instruction. That number ought to be increased manifold. The dairy industry is a most important one. Connected with it are a large number of people who are building up not only their own stock but that of others in their community. We cannot have too many meetings or too many instructors, and in endeavoring to raise the standard of the

men connected with this industry we should also endeavor to concentrate upon it the attention and sympathy of the public. But let us not lose sight of the man. The man will make the farm, he will grow the crops and develop the cow and improve the milk and make the dairy interest a success, providing he has had the proper training; whereas even with the best equipment the man who is not properly instructed will be able to do but little.

Mr. RUDDICK: I want to make myself clear upon a point. The milk at the present time is rich, testing 1 per cent. higher than it did in the spring. There are now 17 creameries running in the winter as the result of the two experimental creameries last winter.

Mr. CASSWELL: I think the makers of Eastern Ontario are to be congratulated upon the marked advance in the character of the goods made by them during recent years. Eastern Ontario men owe much to the grand work of Mr. Ketchum Graham.

Mr. DERBYSHIRE: A more genial, unselfish and patriotic man than Mr. Graham I have never known. He would readily put his hand into his pocket for the general good.

Mr. DALY: And Mr. Casswell has done much for the cheese industry, more especially in the west. We should not forget the men who developed our Association and the great cheese industry.

The meeting then adjourned until 10 a.m. next day.

## SECOND DAY.—MORNING SESSION.

The Convention resumed business at ten o'clock.

Mr. POLSON, Mayor of Kingston, was introduced by the President, and said that he regretted the absence of the President of the Board of Trade through pressing business engagements, but as Mayor of the city, he had much pleasure in extending to the Association a hearty welcome to the city. He expressed himself as being highly pleased with the papers read on the previous day and the discussions on the same. It was only but recently that he had learned of the great changes for good which had been wrought in dairying through the instrumentality of the dairy and creamery associations. "The strides made in cheese-making are truly wonderful. The Government farms and College and the good work of the travelling dairies augured well for the future of agriculture. The farming interest is the paramount interest of the country. The farmers are learning how important the principle of co-operation is, and how much can be done if they will only stand shoulder to shoulder on behalf of their rights and demand a larger voice than they now have in shaping the fiscal policy of the country." He concluded by expressing the wish that at no distant day he might have the privilege of again meeting a similar gathering at Kingston.

The PRESIDENT made a brief reply in acknowledging the cordial welcome.

## HOME GROWN COARSE FODDERS.

Mr. FRANK T. SHUTT, M.A., F.I.C., Chief Chemist, Dominion Experimental Farms, delivered the following address: Canada is an agricultural country, and her progress in the future as a nation will be proportionate to the progress of her agricultural industries. I am aware that she possesses mineral wealth of yet untold value—that within her confines are rich deposits of gold, silver, nickel, iron and coal, that, as they are developed, will form a fruitful source of prosperity and revenue.

I know that we take no mean stand, considering our population, as a manufacturing people. Our agricultural implements, our pianos, our stoves, and a thousand and one other articles made in Canada, all bear the stamp of skill and of honest labor upon them.

And yet I say that, first and foremost, Canada is an agricultural country, and Canadians as a people are, and must be, farmers. With our millions of fertile acres, stretching from the Atlantic to the Pacific, thousands of which are yet unoccupied; with a climate, varying, certainly, in different parts of this great Dominion, yet always favorable to the production of large yields of those crops suitable to the locality; with a

widely-scattered and country-loving people, and with many another factor that tends to stamp our country as one eminently suited for pastoral pursuits, we must admit that, for Canada and Canadians, wealth and prosperity lie chiefly in agriculture, in dairy-products, in stock-raising, in fruit-growing, in the cultivation and export of grain and all other farm crops.

We have it within ourselves to be a large food-producing country. Not only are we able to supply ourselves with the necessaries of life, but we are able—and in the future I trust we still shall be more and more able—to supply the markets of the mother country —that great manufacturing, food-consuming nation—with wheat and meat, with cheese and butter, and with apples. The possibilities in this direction are, comparatively speaking unlimited. We have it within our own power to build up a tremendous export trade in food commodities. To compete successfully in these markets—to supply these commodities with profit to ourselves, we, as an agricultural people, have much to learn. More rational methods of farming must be practised. We must be more systematic, more careful, more precise. Slip-shod and hap-hazard must be relegated to the past. We must do more reading, more studying of the scientific principles that underlie agriculture. Above all, we must hear what chemistry has to teach regarding the relative values of different cattle foods, concerning the fertility of soils, the nature of plant food, and the composition of dairy products. Indeed, it requires but little reflection to convince us of the intimate relationship of chemistry to farming operations, and how all our agricultural problems make demand upon the science of chemistry for their solution. Chemistry is the basis of scientific agriculture; it must be the basis of future farming. I cannot, however, enter more fully upon this aspect of the question to-day, but merely content myself with saying that economical production and increased profits will only be possible when the brain works with the muscle, when we have science with practice.

Now, I believe that the last few years have seen an increasing interest on the part of farmers in matters pertaining to a more systematic and intelligent carrying on of this work. This, to a great extent, is undoubtedly the result of the Government's action in the publication and dissemination of information regarding the farm, and in the pursuance of scientific experimental work which would be too costly for the individual to carry on. The results of this experimental work are widely circulated in reports and bulletins, and as they become better known they are more and more appreciated and valued.

To-day I bring before you some results obtained in the chemical laboratories at Ottawa during the past year, which will inform you as to the composition, and hence the value, of some of our more common fodders. They are, I think, of special interest to dairymen, stock-raisers, and indeed to all who make the keeping of cattle a feature of their farming.

Cattle foods fall into two great classes: One, the concentrated fodders, the other, known as the coarse or bulky fodders, characterized by a larger proportion of starch, sugar and fibre than those of the first class mentioned.

*Concentrated* fodders comprise the various grains and seeds used in feeding, together with the many bye-products from milling and manufacturing processes, *e.g.*, bran, cotton-seed meal, linseed or oil-cake. They are very valuable, and indeed indispensable, in all economic and efficient rations. Without one or other of them it is impossible to prepare a properly balanced food, *i.e.*, one in which there is a right proportion of nitrogenous to non-nitrogenous constituents. Since, however, they are, compared with the coarse foods, costly, and in many instances must be purchased by the farmer, the economical feeder will endeavor to replace, as far as possible, these "concentrated" foods with "coarse" and other fodders grown on the farm, and upon which, consequently, no middle man's profit is paid. My subject to-day is home grown coarse fodder, and therefore I cannot speak further now upon the function of the concentrated foods. They are necessary. They are valuable. They give good returns. We cannot replace them in a ration, but by feeding a bulky fodder tolerably rich in albuminoids, we can very much reduce the quantity of them otherwise necessary.

*Coarse* or *Bulky Fodders*. These include grass, hay, ensilage, roots, straw, etc. As a rule their albuminoids are low, though in this there are some exceptions. They are necessary for the proper distention of the ruminant's digestive organs, they serve to keep

the animal in health, they are nutritious, and furnish largely the constituents that develop heat in the animal economy, and lastly they are cheap.

A discussion of home grown fodders would properly include the grains as well as the bulky food articles, excluding mill and bye-products. But time permits me only to speak of the "coarse" forage crops whose composition has been ascertained this year at our laboratories.

To compare the values of fodders we must study their composition as well as their market price. We must not only know the relative amounts of their various constituents, but we also must be aware of the functions that each of these constituents has in the animal system. Permit me then very briefly, before discussing the fodders of the table, to outline these functions.

### Dry Matter.

The dry substance of a fodder consists of an organic, and of an inorganic or mineral, part.

*Organic.* The valuable and nutritive constituents of fodders are of this nature. They fall into two classes, viz. : *Nitrogenous* and *Non-nitrogenous.*

The *Nitrogenous* compounds contain, in addition to carbon, hydrogen and oxygen, the valuable element nitrogen, often associated with sulphur and phosphorous. In the following table they are collated under the heading "Albuminoids." Though the albuminoids in plants and animals may differ in physical properties, they all closely approximate each other in chemical composition—containing in the neighborhood of 16 per cent. nitrogen. Examples of albuminoids in the animal kingdom are : white of egg, casein (curd) of milk ; in the vegetable kingdom : gluten of wheat—the tough elastic mass left after washing out the starch, etc., in flour, and vegetable casein found largely in the seeds of the leguminosæ—peas, beans, etc.

The nitrogenous matters or albuminoids are considered the most valuable of the nutritive ingredients of a fodder, and in the animal economy play the part of flesh-producers. They enter largely into the composition of muscle and cartilage, and are essential constituents of the vital fluids, blood and milk. They also assist in producing fat and developing heat and energy.

The *Non-nitrogenous* matter is made up of (1) fat, (2) fibre, and (3) carbo-hydrates. These are all composed of carbon, hydrogen and oxygen, and their chief function in the animal is the generation of heat and muscular energy necessary for the continuance of life and the accomplishment of work.

*Fat.* Of the non nitrogenous constituents, fat has the highest nutritive value ; and this because it contains a larger percentage of carbon than fibre, or the carbo-hydrates, in the burning of which in the blood much heat is evolved. Its increased value is largely due, also, to the fact that it can be converted into animal fat much more readily than the other organic ingredients.

*Fibre* is the least valuable of the food ingredients. It is the part of plants that corresponds in function to that of the bones of animals, viz., the supporting and strengthening of the other tissues. By chemical means it can be separated from the other parts of a fodder as a fibrous or woody material. As plants mature, the fibre, as a rule, becomes less digestible, chiefly owing to the deposition of ligneous or woody matter.

*Carbo-hydrates.* These include starch, sugars and gums, and consist of carbon united with oxygen and hydrogen in the proportions in which they exist in water. They serve, by their oxidation to carbonic acid and water in the animal, to produce heat and energy.

The last column in the table, headed Albuminoid Ratio, represents the proportion of the albuminoid to the non-nitrogenous portion of the dry matter. Thus in No. 1 there is one part of albuminoids to 11.08 parts of carbo-hydrates, fats and fibre taken together ; in No. 4 there is one part of albuminoids to 3.91 parts of the non-nitrogeneous portion, consequently No. 4 is the more concentrated or richer food of the two.

Coarse Fodders. C. E. F., 1892. Constituents in Pounds per Ton.

| Fodder. | Dry Matter. | Albuminoids. | Fats. | Carbo-hydrates. | Fibre. | Albuminoid Ratio. |
|---|---|---|---|---|---|---|
| 1 Indian corn—in glazing condition | 455.0 | 37.67 | 6.59 | 261.98 | 124.49 | 11.08 |
| 2 Corn ensilage, December 4th | 438.2 | 39.44 | 14.50 | 258.58 | 100.75 | 10.11 |
| 3 " March 5th | 440.0 | 41.49 | 19.23 | 228.14 | 114.83 | 9.84 |
| 4 Beans—average—whole plants | 286.8 | 58.4 | 14.6 | 99.2 | 85.4 | 3.91 |
| 5 Sunflowers—heads and seeds | 487.6 | 47.0 | 97.2 | 157.6 | 158.8 | 9.37 |
| 6 " stalks and leaves | 311.0 | 19.2 | 17.4 | 122.4 | 113.4 | 15.20 |
| 7 Timothy, just speared, June 8th | 418.6 | 70.2 | 17.8 | 167.4 | 129.0 | 4.90 |
| 8 " seeds formed, July 15th | 696.4 | 57.2 | 10.4 | 385.0 | 217.0 | 11.17 |
| 9 " hay—average | 1,828.6 | 166.4 | 44.0 | 1,034.6 | 658.0 | 9.99 |
| 10 Clover " " | 1,888.8 | 296.4 | 49.8 | 866.8 | 607.4 | 5.37 |
| 11 Oat straw, " | 1,850.2 | 81.4 | 42.8 | 761.2 | 865.6 | 21.73 |

No. 1. Indian corn in the glazing condition. This analysis represents the composition of the corn when the crop is in the best condition for cutting—whether for the silo or for preservation in the dry state. I went very fully into this matter at your convention last year, showing from scientific data the necessity of allowing the crop to come to this stage of maturity. For these particulars I would refer you to the annual report of this Association for 1891.

Nos. 2 and 3 are of corn ensilage, taken on different dates. Since there were several varieties of corn put together in to the silo, I cannot draw a very close comparison between the ensilage and the corn. The apparent increase of fat in the case of the ensilage is largely due to the formation of organic acids, and which, owing toour present methods of analysis, are determined with the fat. It is an apparent increase then, and not a real one. Corn ensilage is undoubtedly the cheapest of all our coarse fodders. It has lately been demonstrated that 1 lb. of hay is equal in feeding value to 4 lb. of good corn ensilage. Accepting this, and granting a crop of 16 tons of corn per acre and of 2 tons of hay for the area, as average yields, twice the amount of real feeding value may be obtained from the growth of corn per acre than from hay. Ensilage must be supplemented, however, by a certain quantity of more nitrogenous food, that is, of hay and meal. The depreciation in the quality of corn by putting it in the silo is very small, providing precautions are taken to exclude air. On account of the greater succulence of the feed (thereby keeping up the milk-flow) and the convenience of storing a large quantity in a small space, I would prefer making ensilage to drying in stooks.

No. 4. This is the average composition deduced from five analyses of beans, including the Broad Windsor, English Horse and Telephone varieties. In each case the whole plant, except that underground, was submitted to analysis, the beans being in flower and pod. These and the sunflowers about to be described were grown at the Farm by Mr. Jas. W. Robertson, Agriculturist and Dairy Commissioner, to be used in conjunction with Indian corn in the silo. The addition of beans increases the albuminoids of the mixture. This mixed ensilage would have a higher feeding value than that from corn alone. The analytical figures clearly prove this. Providing the beans are palatable

to cattle, and that they can be cheaply grown, and easily and well ensiled, their introduction as a crop to be grown with corn for the silo may be looked for in the near future. The Telephone bean is a climber, and uses the corn as a pole. Consequently the two are cut together in the field and in the ensilage cutter, and are thus intimately mixed in the silo. The experiments carried out by Mr. Robertson with beans appear to be highly satisfactory.

No. 5. The composition of the "heads with seeds" of the sunflower is here tabulated. While not so rich in albuminoids as beans, we find here a larger proportion of these valuable constituents than in corn. The seeds are *especially rich in oil or fat*, and would supply this ingredient in ample quantities in a mixed ensilage of corn, beans and sunflowers, making a well-balanced and nutritious diet. The sunflower heads have made a sweet ensilage. The heads were cut with about two inches of stalk; between seven and eight tons of these heads with seeds were obtained per acre.

No. 6. Sunflower stalks and leaves. These are exceedingly poor in food constituents, being low in albuminoids and fat, and high in water. As the season advances the fibre becomes woody and indigestible. For these reasons they cannot rank with the fodders already mentioned, and it is extremely doubtful if their low value gives them any place in a cattle ration.

Nos. 7 and 8. I have placed these analyses of timothy on the chart to emphasize the right time at which this valuable grass should be cut. From over one hundred analyses of Canadian grown grasses taken at different periods of maturity, we have been able to corroborate the statement that the food value of a grass is depreciated when the latter is left uncut long after the seeds are fully formed. In the case before you, in spite of an increased total gain of dry matter, a loss of 13 lb. of albuminoids per ton has occurred between the spearing of the timothy and its seeds ripening.

No. 9 represents the average composition of timothy hay. The figures bear out what I have said regarding its relative value compared with that of corn ensilage; that is, that its feeding qualities, weight for weight, with ensilage, are about four times greater.

No. 10. Clover hay. While the total dry matter in clover hay does not differ in amount to any great extent from that in timothy hay, its albuminoids are much higher. It is therefore the more valuable of the two. Clover belongs to the same family as beans and peas—the leguminosæ—plants all characterized by a large percentage of albuminoids. It has been proved of late years that a great part of their nitrogen (the essential constituent of albuminoids) is derived directly from the atmosphere. This alone makes them a most valuable and economical crop—adding to the store of fertility of the farm, instead of detracting from it.

No. 11. As might be expected, the albuminoids in oat straw, compared with the foregoing fodders, are low. Nevertheless oat straw has a distinct feeding value. It should not, of course, be fed exclusively, as is now so often done. It is impossible to produce milk or lay on flesh with such a diet, but it may well form a part of a ration for cattle, giving necessary bulk to the richer foods, and thereby assisting digestion.

This subject of the relative values of fodders is a large one, and cannot be mastered by simply listening to an hour's lecture. The fundamental principles involving the function of the food constituents in the animal, and the digestibility of these constituents in various fodders, must be studied. Economic and efficient feeding, then, consists in applying these principles, having at the same time due regard to market prices of the "concentrated" foods and the composition and yield of the home-grown fodder. For information in detail on many of these points I would refer you to the annual reports of the Dominion Experimental Farms, in which, during the last three years, valuable and useful data respecting cattle foods have been published.

A Member: Do you believe in excluding the air from the top of the silage? If so, what would you use? Is cut hay or straw of any benefit?

Mr. Shutt: You cannot keep corn ensilage from decaying at the top. There must always be a little loss there.

A MEMBER: Do you think a weight on the top of the silo would be of benefit?

Mr. SHUTT: Yes, but you must deal with the matter practically. The question is: Is it better for me to lose a few inches of corn or haul up hundreds of pounds of stone?

A MEMBER: Did you ever try mixing salt with it?

Mr. SHUTT: I have not tried it. Salt is a preservative, but I do not know to what extent it would retard fermentation.

A MEMBER: What about the varieties of seed?

Mr. SHUTT: The variety of corn to grow for any particular district is the corn that will come to that stage of maturity called "glazing" before there is danger of frost. We are beginning to give up those large varieties, such as Red Cob and Mammoth Southern Sweet. There are good varieties like Pearce's Prolific, Longfellow and Compton's Early. The two first named are favorites with us. It is not the largest yield per acre we are after always. The Thoroughbred White Flint is a good corn, and ripens in some parts of Ontario, but it does not come to maturity with us. Much of the value of corn depends upon its coming to this glazing stage.

GRAHOIF A MEMBER: Don't you think you could get as much benefit from corn preserved in any other way than by the silo?

Mr. SHUTT: I do not think that corn stover, for instance, is as good as ensilage, except perhaps for muscle making.

A MEMBER: What about wilting?

Mr. SHUTT: That is a matter in which you must also use your judgment, just as in the case of sowing. It is best to let the corn rest perhaps a day or two in order to lose a little of its moisture. This will, to a certain extent, lessen the danger of fermentation.

A MEMBER: Is there not a possibility of getting it in too dry?

Mr. SHUTT: Not when it comes to the glazing condition. In that case it is best to take it to the silo at once without allowing it to wilt.

A MEMBER: Have you ever tried the experiment of sowing two corns together, one of which will ripen before the other?

Mr. SHUTT: I have not. I have heard of that being done, but I cannot see where the value of it comes in. On account of some of the corn not being ripe it is full of moisture and is likely to bring on fermentation all the sooner; while the other corn may be too ripe and perhaps indigestible.

A MEMBER: How shallow a silo do you think you would build?

Mr. SHUTT: That would depend very much upon the number of stock. I would rather have it on the high side than on the broad. The main object should be to have the least possible exposure to air.

Mr. ASHLEY: I have built my silo very carefully, but it cannot keep the corn properly.

Mr. SHUTT: Well, there must be something defective about the building of it. If you will keep out the air you can keep corn for any length of time.

## ADULTERATION OF DAIRY PRODUCTS.

Mr. GEORGE TAYLOR, M. P., of Gananoque, was called upon for an address and said: I am simply here in the place of the Mayor of Gananoque, and was sent to invite you to hold your next convention in our town. While I am here I might put in a claim for the county of Leeds, and perhaps take a little credit to myself, for having done much by way of aiding the dairy industry of this country. A few years ago, in my place in Parliament, I asked the Government to prohibit the introduction of what is known as oleomargarine as a substitute for butter. I made a speech in support of my request, and was nearly laughed out of court, but to prove to the satisfaction of the members, many of whom were not conversant with the subject, the danger of the competition, I brought a sample of this substitute for butter (which had been fed to us at

the hotel), imported from Chicago, into the House of Commons, and passed it around for examination. It was very nice butter, to all appearance. The result was that the Government brought in a Bill prohibiting the introduction of that article into Canada as a substitute for butter. In a speech made by Professor Robertson in England lately he said that Canada had a law passed prohibiting the introduction of oleomargarine, and he asked that England do the same. Mr. Taylor then read from an English commercial paper reference to the case of a man who was punished for importing a substitute for butter into the country, and continued: The passing of that Canadian law against oleomargarine has benefited this country considerably. We have our own market all to ourselves, but when we send it to England it has to come into competition with oleomargarine. I also took action some time ago against the introduction of American cheese into Canada in bond for England. Our cheese was then gaining a reputation in England, and when buyers saw a steamer from Canada come into port with a cargo of cheese they of course thought it was of Canadian manufacture. I had an idea that there was something wrong, and that they would not bring the cheese through here in a roundabout way unless there was some special advantage to them. I brought the matter up in Parliament but was knocked down the first year. The next session, however, I succeeded in getting a law passed to the effect that all American cheese passing through Canada should be branded, so that it could not be mistaken for the Canadian article. The American cheese does not bring within a penny or penny and a half of the price of Canadian cheese, as it has not as good a name as ours. Last session I again brought up in the House the necessity of having an inspector appointed at the export points of Canada—Montreal and perhaps in the west—for the purpose of inspecting all cheese, for I think that would be a move in the right direction, as it would help to grade our cheese up to the right standard. You have professors here from the Ontario and Dominion Farms, and I am glad to know that all these institutions are working harmoniously together. Mr. Taylor concluded by reading a formal resolution of invitation from the corporation of Gananoque to hold the next convention in that town.

Mr. DERBYSHIRE: The previous speaker would lead you to believe that there was no difference between American and Canadian cheese except the brand. Now, we in Canada put more skill into the cheese, so that an American cheese is not really in competition. You cannot deceive a dealer on the other side of the ocean as to the real quality of cheese. You can no more deceive them in cheese than you can in the case of horses. The moment you put your hand upon a Canadian cheese you can tell by its smoothness that there is skill and there is the real article.

Mr. CASSWELL: I think Mr. Taylor's idea is that no American cheese should leave Canada and be possibly mistaken for Canadian cheese. It is useless to brand cheese, as the brands are taken off in England.

Mr. TAYLOR: We have bonding privileges through the States and they have bonding privileges through Canada. The rule is that upon every box and upon every cheese there shall be branded in black letters "The product of the United States." The first purchaser in England therefore knows whether he is buying a Canadian or American product, even though he may afterwards take off the brand.

## A PRACTICAL LETTER FROM MRS. JONES.

Mr. DERBYSHIRE then read a long letter from Mrs. E. M. Jones, of Brockville, whom he described as the leading dairywoman of Canada, one who had made a life-study of her work, and who had been more successful in her particular line than any man carrying on a private dairying business in the Province. She had learned how to carry on a dairy for profit. After some personal references the writer went on to say:

"The average cow of the country makes 150 pounds of butter a year, which sells at an average price of 20 cents a pound. Indeed, I doubt if they do as well as this. My cows produce from 250 pounds all the way to 500 pounds of butter a year, and sometimes far more, and my butter sells at 35 cents per pound all the year round right at my own

place. . . . . If we could make far more butter and a better article than we do now, and get a far better price for it, and at the same time keep fewer cattle than we now do, with less cost for feed, for attendance and for barn room, would it not alter the whole aspect of dairy matters in Canada? England pays thousands and thousands of dollars annually to Irish and Danish farmers, every cent of which ought to go into the pockets of the farmers of Canada. Let us change all this and bring this trade to our own Dominion. We must increase our product and must get a higher price for it too. And one great way of making more profit is to follow the teaching of all our great dairy schools and colleges. They continually tell us to 'Lessen the cost of production.' How is this to be done? By starving our cows? Far from it; but by keeping a better class of cows, feeding and caring for them better, and using more skill and care in making our butter. We have to do two things: 1st. To increase our production; 2nd. To lessen the cost of production in the way indicated. Do not think I advocate too high feeding, for that is almost as great an error as starving your cattle. Feed generously and of suitable material, but find out each cow's capacity and feed her up to the highest point at which she pays for the feed and not one bit beyond. Some cows will respond far more readily than others. In my little book, lately printed, 'Dairying for Profit, or the Poor Man's Cow,' I have given a year's feeding of a cow I now own. The ration was very large, but then she was an exceptional cow, and her yield was very large, so that she gave me an actual cash profit for butter alone of $49.70 in the year, over and above her keep. As you will see by reference to my book, I make no charge against her for actual attendance or barn room. But on the other hand I gave her no credit for the quantities of skim-milk and butter-milk, for the large pile of manure and for the fine heifer calf she gave me. So that you will see that the profit I mention is if anything underestimated.

"It has been said to me that this was an exceptionally good animal, and that few cows would respond to feeding as she did. Precisely; that just hits the nail on the head. Now, what we want to do is to get rid of those poor cows that will not respond to feeding. Beef them, bury them, but do get rid of them, for they are mortgaging your farms and making slaves of your wives and families, and sinking you deep into debt every year they exist, and fill the country with cows that will respond to good feeding, that will pull you out of debt and leave you a good balance in the bank. I do not extol one breed above another, for circumstances alter cases, and it is folly to disparage one noble breed of cattle just because you happen to prefer another. It is like the man who said there were only two sorts of dogs in the world—'The dog he kept himself, and the curs that everyone else kept.' This is all wrong.

"We have many grand breeds of dairying cows to choose from, and I would say to you most earnestly, choose the breed that suits you best; then get the very best individuals of that breed and give them the best of feed and care and you will never regret it. It makes my heart sick to see those of my own sex wishing they could earn some money, to see them peddling books and corsets, working in factories, or writing trashy novels for only enough to keep soul and body together, and all the time they have right at hand an industry more noble, more profitable and far more independent,—one that will elevate themselves and the whole community, and enable them to confer a lasting benefit upon the country in which they live and die."

Mr. Casswell: It has seemed to me that there were two or three things which might be spoken of to advantage in regard to Prof. Dean's paper, and in regard to the character of the men we have in our agricultural colleges and stations. I am glad to say that our members of Parliament are backing up our able agricultural professors and instructors, and enabling them to send abroad much printed information for the benefit of the agriculturists. I think also it would be a good thing to have a paper published in this country devoted entirely to dairying. (Applause.) Of course it would take a man of brain and energy and experience to make it a success, but such a man could make it pay, and it would pay the country too. We have professors of agriculture and dairying now of our own who can give us first-class instruction, and we hardly find it necessary to import speakers from the other side for our dairy assemblies as in times past. We have now first class native talent in this particular line.

The meeting then adjourned until two p.m.

## SECOND DAY.—AFTERNOON SESSION.

The Convention was called to order by the President at two o'clock.

## REPORT OF THE NOMINATING COMMITTEE.

Mr. Henry Wade presented the report of the Nominating Committee, and prefaced its reading by the following remarks: Before moving the report of the Nominating Committee, allow me to congratulate you upon the success of this Convention up to the present time. It is true we have not had any of the distinguished and eloquent professors from the other side of the line, but the blank has been ably filled by our own young Canadian professors from both the Dominion and Provincial dairy institutions, giving addresses bristling with figures and facts, and being so well posted in the catechism of cheese and butter-making that they are able to impart information to every one in search of it. I cannot help looking back almost before some of them were born, at the difficulties I found, about 1866, to teach myself how to make cheese on the factory system. There were no instructors to call at the factory and post you. My first lessons were taken in the Utica valley, and the first factory I ever visited was at Rome, N. Y., the historical one started by the late Jesse Williams. We knew nothing in those days about the Babcock tester, nor of butter-fat scale, nor of buying milk by its intrinsic value, although we could make a pound of cheese from ten pounds of milk without any difficulty—and it was good cheese also, much better than we get at the ordinary groceries in the city of Toronto at the present day. If it was not for the meetings of this and kindred associations, and the reading of statistics as to shipping of cheese to England, which is pronounced good, we Torontonians, who have not long purses to buy fancy brands of Canadian or imported cheese (principally made from goat's milk), would think that Canadian cheese had deteriorated, as what we buy is dry, hard and absolutely without flavor that is pleasant.

Your Committee on Nominations, after careful consideration, have not thought fit to change the personnel of the offices for 1892 to any great extent, as several important works are going on at the present time that strangers would not be familiar with, such as the overlooking of the inspectors and the completion of the cheese exhibit for the World's Columbian Exposition so ably commenced during the past year under the direction of Prof. Robertson, through the advice of Prof. Saunders and with the assistance of the President and Directors of this Association.

We recommend for President for 1893, Mr. Wm. Bissell, of Algonquin, who was our 1st Vice-President last year, following out the unwritten law of promotion generally acted on by this Association.

For Vice-President, Mr. Wm. Duff, of Inverary, our 2nd Vice-President for last year.

For 2nd Vice-President, John McTavish, Vancamp, one of the oldest Directors on the board.

Directors: District No. 1. E. Kidd, North Gower; District No. 2, Wm. Eager, Morrisburg; District No. 3, Richard G. Murphy, Elgin; District No. 4, James Whitton, Wellman's Corners; District No. 5, T. B. Carlaw, Warkworth; District No. 6, Henry Wade, Toronto.

Auditors: Morden Bird, Stirling; A. C. Johns, Fairfield East.

I have great pleasure in moving this report, seconded by Mr. R. G. Murphy.

The report was unanimously adopted.

Mr. Wm. Bissell, President-elect, briefly returned thanks for the honor conferred upon him. He was not a speaker, but he trusted he was a worker, and would lend his best energies to the work of aiding the progress of the Association and the great industry it represented.

## SWINE BREEDING AND THE DAIRY.

Mr. E. Casswell, of London, made a strong plea for breeding hogs for bacon and ham to rival the famed Danish products. He claimed that dairymen could raise swine more profitably than could any other class of agriculturists, and spoke of the splendid market in Great Britain for prime bacon. Mr. Casswell delivered a similar address before the Creameries' Convention at Harriston, and his remarks at greater length will be found in the report of the proceedings of that gathering.

## FREE CORN FOR THE DAIRYMAN.

Mr. George Osborne, of Kingston, was invited to the platform, and spoke as follows: Cheese is a natural product of Canada. It is the only manufactured product of this country which is exported in any great quantity. I have heard many people say that there is no market in the world for our surplus farm products; but we can easily get a market for almost any article if we will produce it cheap enough and good enough. England spends $250,000,000 annually for butter, cheese and meat. During the past year Canada received about $10,000,000 from England for her cheese, and practically nothing for anything else. Denmark is a little country in the north of Europe which has not the climatic advantages of Canada, lying further north than that portion of our land which is inhabited, and it is badly watered, while the reverse is the case with Canada. Notwithstanding all that, in 1891 Denmark exported 100,000,000 pounds of butter. There is $25,000,000 that Canada had not even a say in competing for. Australia, has been sending millons of pounds also, and it seems that Canada sends none, or next to none. And why? Because of our so-called protective tariff. I have some good stock—splendid Jersey cows—and I will have to pay 7½ cents a bushel duty for the corn I wish to feed them, while any maker of whiskey can get that same corn in for nothing. (Applause and cries of "It's a shame".) We have sent our cattle away from this country in a half-fed condition, and have foolishly sent away the hay that would feed them. Australia sends frozen mutton and beef through the Suez Canal to England, and from distant Montevideo Great Britain also receives animal food, while we have to send hay and "stockers" out of the country because corn is taxed to the farmer.

A Member: Why don't you grow it?

Mr. Osborne: Because we cannot grow it generally. But if the distillers can get it in free so as to make whiskey, why cannot we get it to make milk and beef? (Applause).

## MISTAKES IN CHEESE-MAKING.

Mr. Ruddick was again called upon for an address, and spoke as follows: I know that there are a large number of cheese-makers here, and that they are generally glad when anything comes up bearing directly upon their special work. Perhaps, at the beginning, it may be interesting to know what has been done in the way of procuring a good exhibit of cheese at the coming International Exposition at Chicago. Members of Prof. Robertson's staff visited certain localities, and inspected and chose cheese, and helped in the putting up of them in the way of placing on extra bandages, etc., so that they would make a nice appearance when put on the shelf at Chicago. All these cheese were sent to Montreal for storage, and at present 373 boxes are waiting to go to the Columbian when that great exhibition opens. However, these cheese will be still further tested by experts so that nothing but first-class cheese will be placed on exhibit. We have also in cold storage in Ingersoll, something over 200 boxes of cheese, to be further selected and sent on. All this will be cheese made prior to 1893. Each factory entering, sends on five cheese, one to be examined and four to be sent on to the Exposition. Every maker, therefore, will have four chances at the show—one in June, one in July, one in August and one in September. There will also be exhibits of cheese made in 1893, which will be

picked out this summer and sent on from time to time. Then there will be the central cheese trophy, which will be a mammoth cheese made at Perth last fall. This monster cheese weighs fully eleven tons—it is over 22,000 pounds—and represents the milk of 10,000 cows for one day. It took three days to make it, and the curd was brought in from twelve different factories. The curd was treated exactly in the same way as ordinary cheese, except that we used a little more rennet and salt. We used 3¾ pounds of salt, and put in milk cans lined with cheese-cloth to be conveyed to the place where it was to be made. This cheese is nine feet in diameter and six feet high. But let me say here that if any of you have an idea of making a big cheese like that you had better let the job out, for it was one of the heaviest jobs I ever undertook. I am satisfied, however, that the quality of that cheese is just as good as if it were made in small pieces. We have tested it at various layers, and found it very good indeed. One of the chief mistakes I have noticed during my experience as an inspector and instructor is the failure to have a supply of wood on hand with which to begin the morning's work. This means considerable delay in starting operations, more especially if it happens to be a rainy morning and the wood is wet, and the milk is coming in before you are ready for it. The man who attends to the boiler is an important factor in the making of cheese. Then there is the mistake made in handling and cutting the curd in the first stages. This is where there is the greatest loss of fat in whey. Then, again, I find makers do not pay enough attention to the way in which their vat is working, and not watching the development of acid, and often permitting too much acid. Get rid of the whey as soon as you can after the cheese is ready to work. You cannot accomplish much unless you start the whey off as soon as possible.

A MEMBER: How high would you cook if your rennet was working fast?

Mr. RUDDICK: I would cook no higher. Never allow the heat to run up above the usual practice. If the heat runs up too quickly and too high, the curd is inclined to mat too rapidly. There is no advantage in going beyond a temperature of 98°. I think it a mistake also for a man to believe the condition of the curd as regards flakiness is a symptom of the condition of the acid. Some think that this is the time to add the salt and grind; but that is not a correct opinion. If you will pile the curd in the vat where it cannot spread out there will be nothing of that sort. There is another condition of cheese quite different from flakiness, and that is the smooth, velvety feel which is the best indication of a good condition of the curd.

A MEMBER: Will the curd mature as fast after milking as it would have done if it had been allowed to lie in the hoop?

Mr. RUDDICK: If the temperature is maintained I think it would.

A MEMBER: What about grinding a gassy curd twice?

Mr. RUDDICK: The main purpose of grinding the curd is to prepare it for the salt.

A MEMBER: How would you get the gas out of it?

Mr. RUDDICK: I would allow it to lie until it came out. Watch these pin holes, and when they begin to flatten out stir the curd, and in that way you will get rid of the gas to a great extent. If you grind early you reduce the temperature and hinder the development of acid. I have sometimes put water on gassy curd. Sometimes the curd gets slimy—into that condition known as "slimy fermentation." Some men have tried to explain the cause of it. It has been asserted that it comes from the cow lying on the cold ground after eating, and it has also been said that it is the result of the animals eating certain sorts of weeds; but the actual cause is not positively known.

A MEMBER: Will washing remove that bad odor to any great extent?

Mr. RUDDICK: Not very much.

A MEMBER: Why is so much butter-fat left on the whey vat?

Mr. RUDDICK: Persons seeing a quantity of butter-fat on the whey vat are disposed to blame the maker for the waste of cheese. You cannot saw a board through without making sawdust, and you cannot make cheese without leaving some of the butter-fat behind.

A MEMBER: Sometimes the milk comes to the cheese-maker in a gassy condition because the milk has not been properly aired by the patron.

Mr. RUDDICK: There is not likely to be very much variation in the quantity of fat left on the top of a can if the milk is handled in a proper way.

A MEMBER: Will airing the milk take the gas out?

Mr RUDDICK: Not necessarily. But the aeration of milk has the tendency to produce a better quality or condition of milk.

A MEMBER: Do you approve of the sheepskin process?

Mr. RUDDICK: I have never been able to see any particular benefit in that plan. I have seen some fine cheese made that way and some fine cheese made otherwise.

A MEMBER: Do you think it affects the keeping qualities of cheese?

Mr. RUDDICK: I do not think it differs materially from any other method so far as affecting the keeping of the cheese is concerned. I would say, however, in any event do not bandage the cheese too soon.

A MEMBER: How long should the curd be left after salting before being put in the hoop?

Mr. RUDDICK: I do not put it in until about fifteen minutes after salting. I do not believe in leaving it for an hour as some do. The cans should be properly cleaned or a sour whey flavor will result.

Mr R. J. GRAHAM: I have had a sterilizer put in in my factory, and send whey back to the patrons, but I would not do it again. I may say also that our curd was more gassy than usual this season.

Mr. RUDDICK: If you do not heat the whey sufficiently to sterilize it you will get the milk worse than before.

Mr. GUTHRIE: Some of our patrons wanted sweet whey. I heated it over 150° and that kept sweet for over three days.

Mr. CLARK: This sterilizing the whey is an expensive piece of business, and unless it makes the whey of more value there must be a loss in the transaction. How high should the heat be raised in order to properly do the work?

Mr. RUDDICK: It should be at 160° in order to be effective; but for that matter you can raise it to 170° without injury. I am afraid, however, that it is hardly as practicable as it should be, as it requires a good deal of steam to heat whey to 160°.

Mr. CLARK: I am glad to hear you speak as you have with regard to these fads.

Mr. RUDDICK: I may say that the object is to improve the value of the whey; and the sweeter the whey the greater the feeding value. I might also mention another mistake I omitted to refer to earlier, and that is that not enough scalding hot water is used in and around the average factory.

Mr. WHITTON: What is your opinion in regard to washing whey cans? With a cloth or with a brush?

Mr. RUDDICK: I would prefer a brush.

Mr. WHITTON: I have observed that a great many of our patrons will persist in washing the cans with a cloth. I think the cheese-maker should scour everything with a brush, and also use salt or a little washing soda to aid in the cleansing. Regarding gassy milk, I think much of that condition is caused by cattle drinking from stagnant pools. There cannot be a too thorough handling of the aerator.

Mr. RUDDICK: If you suspect there is gas in the curd let it lie in small pieces until acid development will overcome the gas. Keep up the temperature and let the curd lie. Of course this will not always succeed, but it will generally.

## FREER TRADE AND ENLARGED MARKETS.

The PRESIDENT: The following resolution, moved by Mr. M. Avery, Warden of the county, and seconded by Mr. D. D. Rogers, of Pittsburg, has been placed in my hands, and I shall now proceed to read it:

"*Resolved*, That in view of the depressed condition of Canadian agriculture, and of the important bearing that industry has on the prosperity of the country, this Convention suggests that a re-arrangement of the fiscal policy of the Dominion, in a way to lighten the burden of the farming community and promote freer trade relations with Great Britain and foreign countries and thus open enlarged and better markets for agricultural products, would be in the highest interests of the farming community."

Mr. AVERY: I have moved this motion because I think it is in the interest of the county and of the country to support such action as that proposed. It is not a political question, for I am a Conservative. I thought, however, that as the Government was going to make some changes in the fiscal policy they should remember the farmer. (Hear, hear.) I believe the farmer has been too much overlooked heretofore. The manufacturers have met together from time to time and arranged to protect themselves, and I think it is high time the farmers should meet together and arrange to have agricultural interests protected and encouraged. If we do not ask for this I fear we will never get it. (Applause.) I have pleasure in moving the adoption of the resolution.

Mr. ROGERS: The farmers as a community have not had their wants looked after as they should have been. I have always been a Conservative and a supporter of the National Policy, but I am afraid that in framing that scheme the farmers never had a fair show (applause), and it has been our own fault. This is largely because we have not been coming together in the proper way to put our wants and grievances before the Legislature. Now that Parliament knows that we have a grievance I think it will be willing to do something.

Mr. B. W. FOLGER, of Kingston, was invited to the platform, and said: It seems to me the resolution has embodied what Sir John Thompson said at Toronto when he referred to the matter. He gave a warning note that the tree was to be pruned. It appears to me that the duty on binding twine should be off, and also the duty on the wire that goes around the bales of hay. Farmers should be represented at Ottawa as well as manufacturers. You should send a delegation to the capital to look after your interests.

The resolution was carried unanimously amidst considerable enthusiasm.

## PAYING FOR MILK ACCORDING TO BUTTER-FAT.

Mr. F. T. SHUTT then spoke upon the subject of "Paying for milk according to butter-fat and some recent modificatious of the Babcock test," a report of which will be found in the record of the proceedings of the Creameries' Association. A portable tester was exhibited during the address.

A MEMBER: Will not some be likely to skim their milk now that they know they will be paid according to quality?

Mr. DERBYSHIRE: On the contrary the quality of the milk and cheese has gone up wherever this method has been introduced. Under the common method there is every encouragement to put in water, but under the Babcock system it is the reverse. If a man chooses to carry water to a factory he will not get paid for his trouble where the Babcock tester is in use. This little machine will make men act more honestly, and will elevate the standard of our cheese as well as the morals of certain patrons.

Mr. CARLAW: I would like to know if 5 per cent. of butter-fat in milk would make twice the amount of cheese that milk of 2½ per cent. butter-fat would make? I would also like to know if the man who brought the 5 per cent. milk would get twice the amount of money that the man who brought the 2½ per cent article got?

Mr. HINCH: I believe the Babcock test has come to stay. At every meeting recently held in our section it was decided that the Babcock tester be introduced, and that milk be paid for according to its butter-fat. In our factory we take tests twice a week. We have self-sealers for each patron and at the end of the week the milk is tested. We have each patron's name on these jars, and have found the quality range from 3.6 per cent. to 5 per cent. butter-fat.

Mr. CARLAW: I would like a square answer to my question.

Mr. RUDDICK: Mr. Carlaw asked a very fair and practical question, and I will try and give him a fair and practical answer. The poor milk with only 2½ per cent. fat will not make as much cheese as that of the 5 per cent. butter-fat milk, although the latter will make only a comparatively small increase in the weight of cheese from the milk, as other elements besides butter-fat—the casein for instance—go to make up the body of cheese. But the quality of the cheese is so much improved by the increased amount of fat that the 5 per cent. milk should be paid for at a much higher rate than that containing only half the amount of butter-fat.

Mr. CARLAW: That is just what I wanted to get at and your answer is perfectly satisfactory.

## FINANCIAL STATEMENT.

The following financial statement was then presented by the auditors:

AUDITORS' REPORT, Kingston, Jan. 18th, 1893.

A statement of receipts and expenditures of Eastern Dairymen's Association of Ontario for the year 1892, P. R. Daly, treasurer:

*Receipts.*

| | |
|---|---|
| To balance on hand from last year | $ 619 97 |
| " Government grant | 2,000 00 |
| " special grant from Government for dairy school, or travelling dairy, under Instructor MacEwan | 750 00 |
| " membership fees | 150 00 |
| " fines | 195 50 |
| " factory payments | 1,460 00 |
| Total receipts | $ 5,175 47 |

*Expenditures.*

| | |
|---|---|
| Paid inspectors | $ 2,826 55 |
| " general expenses board and committee meetings, officers, etc | 2,017 23 |
| Balance on hand | 331 69 |
| Total | $ 5,175 47 |

*Gentlemen*,—We have examined the books and accounts of your treasurer for the year 1892, and compared the same with the vouchers produced, and find them correct, leaving a balance on hand of $331 69, of which $129.65 is in the hands of W. J. Bissell and the remainder in the treasurer's hands. All of which is respectfully submitted.

Auditors { MORDEN BIRD. W. H. THOMPSON.

## REPORT OF COMMITTEE ON DAIRY UTENSILS.

KINGSTON, Jan. 19, 1893.

Your committee on dairy utensils beg leave to submit the following report:

After having carefully examined the utensils exhibited we wish to bring before the notice of the dairymen a machine exhibited by Mr. D. Ewing, of Cobourg, for agitating and aerating the milk during the night. We think this contrivance will be beneficial to dairymen in many respects, more especially by keeping the cream thoroughly incorporated, necessarily giving better results to factorymen and thereby increasing the profits of all concerned. We also recommend all connected with dairying to use aerators. The one we have examined, exhibited by Mr. Fowells of Belleville, we consider worthy of consideration, as well as the Babcock tester exhibited by Mr. Derbyshire, of Brockville. Carried.

The following resolution was moved by Mr. T. B. CARLAW, seconded by Mr. D. DERBYSHIRE, and carried:

That the dairymen of Eastern Ontario, through this Association, desire to express and tender to the Government of Ontario, and to Hon. John Dryden, Minister of Agriculture, especially, their sincere thanks for the extra grant of $750 so much needed and required to further the dairy interests of this great and growing Province of Ontario; and also to thank the Dominion Government for the great interest and the grand and good work that it is doing for the good of the farmers of this Dominion at the Experimental Farm at Ottawa, and through the direct efforts, especially, of Profs. Robertson, Shutt and Saunders, not forgetting the very valuable work being carried on by the Ontario Government by Deputy-Minister of Agriculture C. C. James, and Prof. Dean of the Model Farm at Guelph.

Votes of thanks were also passed to the speakers, the Mayor and corporation of Kingston, the press, and the retiring President.

The Convention then adjourned.

## THE BANQUET.

The citizens of Kingston entertained the members of the Association at a banquet in the Windsor hotel in the evening. The affair was a pronounced success. The Mayor of the city occupied the chair, and Principal Grant, Senators Howlan and Sullivan, ex-Mayors Pense and McIntyre, Mr. H. H. Folger, and other leading citizens spoke words both hospitable and complimentary. Leading members of the Association and prominent local agriculturists also replied to toasts, and the evening was one long to be remembered by those who were present. The city press gave a full report of the proceedings, and declared the banquet to be one of the most successful social gatherings ever held in the city.

# II—CREAMERIES' ASSOCIATION OF ONTARIO.

# OFFICERS FOR 1893.

*President*.....D. Derbyshire, Brockville.

*1st Vice-President*.....Aaron Wenger, Ayton.

*2nd Vice-President*.....John S. Pearce, London.

*Secretary*.....John Hannah, Seaforth.

*Treasurer*.....R. J. Graham, Belleville.

*Directors:*

No. 1.—John Croil, Aultsville.

No. 2.—A C. Burgess, Carleton Place.

No. 3.—T. J. Miller, Spencerville.

No. 4.—John Sprague, Ameliasburg.

No. 5.—Robert Philp, Cadmus.

No. 6.—M. Moyer, Toronto.

No. 7.—J. T. Brill, Guelph.

No. 8.—W. G. Walton, Hamilton.

No. 9.—John Hannah, Seaforth.

No. 10.—James Struthers, Owen Sound.

No. 11.—T. Brown, Holstein.

No. 12.—A. Wark, Wanstead.

No. 13.—J. N. Zinkann, Wellesley.

*Auditors:* H. E. Fairfield.....Belleville.
J. R. Finkle.....Belleville.

# LIST OF MEMBERS

FOR 1893.

| Name. | Post Office. |
|---|---|
| Boyd, Alfred | Toronto. |
| Brown, Thomas | Holstein. |
| Bissell, James | Brockville. |
| Bissell, W. J | Algonquin. |
| Bush, O., M.P.P | Kemptville. |
| Burgess, A. C | Carleton Place. |
| *Canadian Grocer* | Toronto. |
| Carmichael, James | Arva. |
| Croil, J. H | Aultsville. |
| Cheesman, James | Southboro', Mass. |
| Crobar, Orlando | Dixon's Corners. |
| Campbell, A | Ormond. |
| Cluff, W. J | Brockville. |
| Cooper, C. R | Toronto. |
| Collett, J. K | New York, N.Y. |
| Campbell, N | Tansley. |
| Derbyshire, D | Brockville. |
| Dominion Dairy Supply Company | Quebec, Que. |
| Davis, Edward | Brockville. |
| Eureka Salt Company | New York, N.Y. |
| Everts, M. K | Easton's Corners. |
| Fuller, V. E | Hamilton. |
| *Farmers' Advocate* | London. |
| Graham, R. J | Belleville. |
| Henry, Frank | Whitechurch. |
| Hannah, John | Seaforth. |
| Howie, H | Newburg. |
| Halliday, W | Chesley. |
| Johnson, C | Athens. |
| Knapp, W. H | Colborne. |
| *Live Stock Journal* | Toronto. |
| Miller, E | Parkhill. |
| Moyer, M | Toronto. |
| Miller, T. J | Spencerville. |
| Munroe, Charles | Dixon's Corners. |
| Macfarlane, Thomas | Ottawa. |
| McAuley, Daniel | Ventnor. |
| Morton, D. & Son | |
| Philp, Robert | Cadmus. |
| Pearce, J. S | London. |
| Reiner, J. G | Wellesley. |
| Randal, A | Ayton. |
| Ross, J. F | Kirkton. |
| Rutherford, W D | Iroquois. |
| Robertson, J. W. (Dairy Commissioner) | Ottawa. |
| Sprague, John | Ameliasburg. |
| Sprague, Mark | Ameliasburg. |
| Struthers, James | Owen Sound. |
| White, S. J | Belleville. |
| Wark, Arch | Wanstead. |
| Wenger, Aaron | Ayton. |
| Walton, W. G | Hamilton. |
| Wilson, Frank | Montreal, Que. |
| Ward, Joseph | Montreal, Que. |
| Zinkann, J. N | Wellesley. |

# EIGHTH ANNUAL MEETING.

OF THE

# CREAMERIES' ASSOCIATION OF ONTARIO.

The eighth annual meeting of the Ontario Creameries' Association was held in the Town Hall at Harriston on the 11th, 12th and 13th of January, 1893. Like its predecessors during latter years, it was in every sense a success. There were large audiences throughout. Among the speakers were, Hon. John Dryden, Minister of Agriculture, Ex-Governor Hoard, of Wisconsin, Prof. Dean, of the Ontario Experimental Dairy School, Prof. Saunders and Frank T. Shutt, Chemist, of the Dominion Central Experimental Farm, Messrs. James McMullen, M. P., Thos. Gibson, M. P. P., and A. S. Allan, M. P. P. The proceedings were entertaining as well as instructive. A local committee comprising Mayor Henry, Mayor-elect Yule and other prominent residents of Harriston undertook the task of making the stay of the members of the Association in the town enjoyable. Mr. Aaron Wenger, at whose invitation the Convention was held at Harriston, contributed very largely to its success. The proceedings of the evening meeting of the second day were interspersed with music by the Ayton Brass Band, and Harriston Orchestra, as well as by songs, and by a very creditable exhibition of calisthenic exercises by a class of school children as a windup to the Convention. After the evening meeting of the third day the delegates were entertained at a banquet by a number of the leading townspeople at the Collison House. The innovation of a year ago, in the way of a butter exhibition in connection with the Convention, was continued this year, and the awards made will be found at the conclusion of this report.

## FIRST DAY.—MORNING SESSION.

Dr. Henry, the Mayor of Harriston, having been moved to the chair, the President Mr. D. Derbyshire, Brockville, read the following opening address:

## PRESIDENT'S ADDRESS.

I thank the good people of Harriston and vicinity on behalf of the Ontario Creameries' Association for your very cordial reception. Although but a few hours in your enterprising town we feel perfectly at home and we are charmed with your people and surroundings.

We are convened for a practical purpose, the development of our great dairy industry, to correct error and diffuse the best dairy knowledge among our farmers and manufacturers. The Association has for the past eight years been trying to circulate right ideas in every possible way, and I feel proud to-day of the great good we have been able to accomplish, addressing the farmers where we had an opportunity, sending out the best dairy literature and educating our people so that they can put better dairy knowledge into daily practice.

I take this opportunity of thanking the officers and members of this Association for their valuable assistance during the past year. Mr. Spragge, the instructor, has been active and energetic, and has been exceedingly successful among our creameries, giving practical instructions and addressing the patrons where they could be got together. Prof. Robertson and Hon. Mr. Dryden have done everything possible to assist us, and again I thank you all for helping on so important an interest as our butter industry in this Empire Province. By all of us working together we have increased the number of creameries by 17 in 1892, and made the largest quantity of fancy creamery butter ever made in Ontario in a single year; the educating influence of the past will still further increase the number of our creameries, and we must see that each creamery has the proper instruction, not forgetting the public meetings for training the patrons.

I would commend the Irishman's prayer to you all when he was in great trouble. It runs like this: "Help, Lord, and lots of it." We want sound dairy help and "lots of it" to educate our people to keep a better cow in a better way, so that she can do the best work. The questions of breeding, stabling, feeding and handling our cows so that they will have comfort, thus enabling them to produce larger quantities and a great deal better quality, are live questions, and I am sure will have the best attention of this very important meeting. The storing up plenty of nutritious food, thus enabling our patrons to reduce the cost of production, I trust will receive proper attention at your hands. The paying for milk according to value and not by weight is one of the most important questions that can be discussed. I know some are paying according to the butter-fat now, but we want all to follow their example on account of the good influence it will have among all our people, giving to every man his just rights—no law suits, no trouble among neighbors, but everyone would at once set to work improving the product, and I am sure our grand province would take another step in advance of all our competitors. Every failure either in butter or cheese factories in this country, can be directly traced to the want of dairy knowledge, and I confess that too many of our friends refuse to believe that our business requires the greatest possible intelligence—more than any other calling in our country to-day.

I am sure that you will be pleased to learn that the Hon. Mr. Dryden has established a dairy school in connection with our Agricultural College, where butter and cheese-makers can be thoroughly trained in their profession, so that they can handle milk intelligently and manufacture the same into the finest goods. Every maker should at once take a short course, so that he may use intelligently all the improved machinery for making, in the best way, butter or cheese.

We want to stir our farmers up so that they will all do as well as the best are now doing, producing larger quantities and cheapening the cost. The best of our dairymen are delivering large quantities of milk and having it manufactured into butter now, and will continue doing so, thus extending our season four months each year, and making our business profitable to all concerned. I hope that some one will bring this subject forward for discussion, and show the great possibilities of winter dairying in this province. Any who have tried making milk in the winter claim it to be exactly suited to our needs. At every meeting that I have had the pleasure of attending for years we have always been talking about keeping a better cow, etc., but I candidly believe if our cows could talk they would demand an improved breed of dairymen, better educated and with more energy for carrying on the great work. (Laughter.) No branch of agriculture brings into our country the amount of money dairying does, and at the same time enriches our soil. I ask the assistance of every dairy farmer and manufacturer in Ontario to aid us in extending and improving our dairy products in every possible way, for benefiting ourselves and families first, and for the good name of our province in the second place.

I regret very much that the Western Dairymen's Association would not hold their convention any other time except on our week. For years our Eastern brethren held their convention the first week in January, our Association the second week, and our Western friends the third week, so that we all could assist each other. I wrote the Secretary of the Western Association telling him when and where we would meet, but

to no effect; but I give notice to-day that this Association will meet next year the same week that it has for the last eight years—the second week in January. We want everyone to know that our mission is not to harm our brethren who are manufacturing cheese, but to co-operate with them in every possible way, so that not only our cheese shall be the pride of our country, but our butter will also take a leading place in the markets of the world. We must see that we have a large quantity of the finest creamery butter on exhibition at the World's Columbian Exposition this year, as our Commissioner has secured plenty of space for a grand exhibit of both butter and cheese.

And now, my friends, we must feel that our labors in the past have not been in vain. We have had a healthful influence in bettering the condition of our countrymen, but I believe greater possibilities than anything yet attempted are in store for us in the future if we are only faithful. Let every one of us in our several localities assist in every way possible the building up and extending of this great national industry. We are here to-day to exchange ideas, to talk freely, to put our knowledge together, so that each one of us can carry home the united knowledge of all, and I hope that we all will do everything we can to make this meeting a grand success.

I have been President for a number of years, and I would like to see you elect some one of our present Board to the position, and I will assist him all I can to carry on the work.

We have a large quantity of butter here from all over the province, and I trust you will examine it and learn all you can by comparison.

We want twice as many members as at present, and more money to carry on the work that we have undertaken, and I trust everyone will assist us all he can to swell the number of members in this Province to 600. (Applause.)

## COMMITTEES.

The President named the following committees which, on motion of Mr. Aaron Wenger, seconded by Mr. Halliday, were appointed:

Order of Business.—Dr. Henry, John Hannah, R. G. Lambert, R. Phelps, D. C. Dorrance, George Grey.

Nominations.—Messrs. Wenger, Millar, Graham, Walton, Wark.

Dairy Utensils.—Messrs. Moyer, Sprague, Halliday.

Resolutions.—Mayor Henry, Messrs. Derbyshire, Hannah, Burgess.

Finance.—Messrs. Graham, Wenger, Brown.

Legislation.—Messrs. Pearce, Derbyshire, Hannah, Brown and Lackner.

The Convention then adjourned until 2 p.m.

## FIRST DAY—AFTERNOON SESSION.

The Convention resumed work at 2 o'clock, the President in the chair.

## ECONOMY IN THE PRODUCTION OF MILK.

Mr. J. A. Sprague, of Ameliasburg, delivered the following address:

The topic assigned to me by you, Mr. President, is a very common one, and is also a very intricate subject. I am glad to discuss this matter with you, and hope what I am about to say will be of interest and of benefit in our dairy work. Economy is the subject of my address, and it seems to be worn out when we consider the length of time it has been in use, and the large number of people that use it. Economy, like many other

things, has two sides to it, and that, perhaps, is the reason it wears so well. We have what we call good economy—that is one side of it; and we also have what is termed poor economy—that is the other side. We all use economy of some kind, poor or good, in our business and farm management. We recommend it to others; but to preach economy to others is as easy as it is to find fault with other people's management and to ask questions that we ourselves cannot answer. It is much easier for us to recommend economy to others than it is to practice it ourselves. The man who talks economy to his wife and family is not always the man that makes use of this commodity himself, personally.

Webster says: "Economy is internal arrangement, system, disposal, and a judicious management of money concerns. Economy avoids all waste and extravagance, and applies money or worth to the very best advantage. Economy is a virtue." I say that if good economy is a virtue, poor economy must of necessity be a vice.

The farmer who is so economical that he can't afford to take a dairy, a county, or a city paper, or, let me say, all three of them, is using poor economy. The dairyman that can't afford to spend time and money to improve the quality and breed of his cows and in securing the best utensils for his business is also using poor economy. Again, the dairyman that sells his grain and hay in the city or other markets, and is feeding his cows on straw, is using the very poorest kind of economy.

Milk produced from straw of any kind is too dear. It costs too much. It is too dear at any price for feeding the dairy cow. I need not speak of the many kinds of straw that we grow on our farms, and I think it is not necessary that we should discuss its value as food for the dairy cow. Straw, I think, has ruined the reputation and broken the heart of many an honest dairy cow. (Laughter.)

The man who selects his cows by guess, that feeds and milks by guess, that runs his dairy on the plan of "let the tail go with the hide," is using poor economy. He is sure not to make money. It is not my intention to lay down a cut and dried rule as to what breed or kind of cows a man should select; it is not my purpose to fix a ration for other people's cows. That I will leave to the professors to do. It is in their line.

Milk to the dairymen is money; it is money's worth; it costs money; it also brings money; it is an article of value. The difference between cost of production and the amount realized from the sale of it, is the farmer's profit or loss. The farmer who is producing milk at the cost of one dollar per hundred pounds, and is only getting eighty cents per hundred pounds is practising poor economy; he is losing money.

Having said this much on poor economy, we will now talk on the line of good economy in the production of milk. The central thought and aim of every dairyman to-day should be how he can produce the largest amount of good milk at the very lowest possible cost. Next, that he produce the milk at seasons in the year when it is worth the most money.

To begin with the cost of production of milk. You, as farmers, all know that the cost of milk is caused by the many different surroundings—the cost of land, the cost of cows, and, last but not least, the cost of feed. Let me say here that I do not know of any fixed rule or law that will apply to all sections of this province regarding breed of cows or kinds of feed alike. Allowing this to be so, I claim that there are certain fixed methods and laws that apply to the good management of all our dairy farms the same.

I do think that it is a fixed fact that corn is our cheapest and best feed, and it yields us cornmeal, corn fodder, and corn ensilage. Many prefer corn ensilage for quantity and for cheapness, for by the judicious use of ensilage in connection with our other feeds, we can obtain large quantities of milk, and are enabled to continue our dairies the whole year. (Hear, hear.)

You all will, I think, agree with me in one thing, that it is time the summer dairy was a thing of the past, so to speak, and will further agree that the time has come when we should give winter dairying a good share of our attention. It is possible to produce milk in autumn and winter, as cheaply as at any other season of the year, and it is also possible to get larger cash returns for it.

Judging by the past, I must be correct. Taking ten years, 1878 to 1887, as a basis of calculation, we find that the price got for milk for the months of May, June, July and August, for the ten years named, was under sixty-four cents per hundred pounds, to the farmer. We find that the average price got for milk for the months of September and October for these same years was eighty-seven cents net per hundred pounds, to the farmer. Comment or argument on this matter to me seems out of place and uncalled for.

The dairyman who builds himself a good silo, selects with care good cows, grows his own feed and plenty of it, runs his dairy the whole year round; who uses diligence and good economy in all his labor, I will liken him to a man that built his house upon a rock, and the hard times came, and the McKinley Bill got in its work, barley got cheap, and the horse became a burthen, the shiftless farmer got poor, but this man prospered. (Applause.)

## PRESENT DAY CONDITIONS.

Mr. James McMullen, M.P. for North Wellington, was introduced, and said: I have been pleased with the addresses which have been delivered. I think the time has arrived when the farmers should seriously think of a different way of getting along from that which has characterized their efforts in the past. I quite agree with the last speaker as to the effects of the McKinley Bill and hard times. The changes that have come over this Province, and particularly as regards the well-being of the farming class, have been a matter of serious consideration to that class for a number of years. I believe that it is in the direction of practical discussions, such as these, their condition is going to be improved, and that they are going to strike out in those lines which will ultimately lead to prosperity. Of course in years past our circumstances were different. By the operations of the McKinley Bill we have been virtually shut out from the American market. Now, it behooves the farmers of Ontario to seriously consider their whole surroundings, and try to reduce the cost of producing their commodities, so as to enable them to reach a market where they will get an unlimited sale, and, at the same time prove remunerative to themselves. I believe that the dairying of this country can be worked to better advantage than anything we can undertake. I believe right in this part of the Province we have the best conditions, and that it can be called the very garden of this Dominion. (Hear, hear.) I have travelled over a great deal of the western and southern States, and I have been through the entire length of our Dominion, and I honestly believe this section where we live is the best on the whole for agricultural pursuits that you can find in any place in this Dominion; and I will tell you why. We have here the best and purest water; we have a magnificent climate; we have a somewhat lengthy winter, but it purifies the atmosphere and kills disease, and otherwise influences healthy associations. Our cattle, as a rule, are free from diseases. All things go to show that we have here a country in which, if we only act intelligently, to cultivate the soil and adopt those means which are necessary for preserving the fertility of the soil so that it will produce what is necessary for our sustenance and for our progress and prosperity, there is nothing in the world to prevent us from becoming a happy and contented people. Now, I do say the time has arrived when a decided change should be made in our system of farming, because many things have conspired to prevent us from continuing the old system. Our soil has become impoverished by excessive cropping. I believe the days of producing wheat remuneratively are past. Manitoba, the North-west and the western States will, in the future, be the large producers of wheat. Take these western farmers, where they have 500 and 600 acres, they use a double gang-plow, and turn over five or six furrows at a time, while you plow perhaps only a few acres. You can easily understand that you cannot expect to compete in growing wheat with farmers who grow thousands of acres, and can drive the reaper half-a-mile one way, and then turn and go half-a-mile back again. They also have the virgin soil which will enable them to grow wheat cheaper. We have have had our day at that. My opinion is that here we are on the right lines now in advocating the production of better butter. As to

silos and the producing of butter in winter as well as in summer, it is something of which I have not had any personal experience. I have been doing considerable farming and have sent the milk of 16 and 18 cows to the cheese factory. I find that it pays better than to raise grain and sell it. One thing struck me which fell from the mouth of my friend (Mr. Sprague). I believe it pays to feed cows well, and it is poor economy to do otherwise. One cow well fed and well housed is worth two half-starved and badly housed. That is one thing that I believe many farmers have lost sight of, and I think we require to make a decided change in that direction. You find in this county we have a great many bank barns. Under those there are fine places for taking care of stock, but in many cases the matter of ventilation is largely neglected. My opinion is that a good circuit of air is as necessary as good food. Cattle are something like ourselves. You must try to give them comfort. Now, Mr. President, I shall not take up your time any further at present. I shall be here during the proceedings of the Convention. I intend to take a deep interest in the dairy industry, and in my opinion it is one of the best things the farmers in this section can adopt. I think if we will produce a butter that will take the English market, it is one of the best things we can do. I believe if we follow out the best lines we will surprise the Americans as to how well we can get along in the face of the McKinley Bill. It will now be hard, however, to re-establish the extensive trade which once existed between the two countries, because we have been compelled to adopt new ways of getting along, and when we have become accustomed to other ways, and these have proved remunerative, we will be very loath to change those ways in order to suit the tastes of those across the border. If the high tariff on our exports were abolished to-morrow it would take a long time for the volume of trade with the United States to reach the amount which we once had with them. When doing business as a merchant I used to regret very seriously having to receive butter from customers all over the country, and pack it to send it off. I used to wonder where consumers were found for that particular commodity. I must confess I thought that had the farmers been educated to produce a butter that was sweet and palatable how much more money they would have got for it. We have lost millions and hundreds of millions of dollars through the farmers of this country not being educated as to the way of making the best butter. I agree that the farmer needs to take the best periodicals he can get, and keep continually educating himself in matters of vital interest to him. If the agriculturists did that and took advantage of all the opportunities for educating themselves as to the best systems of dealing with agriculture, they would adopt those means that would most tend to their financial well-being and prosperity. (Applause.)

## DAIRY KNOWLEDGE IS POWER.

Mr. John Hannah, Seaforth, Secretary of the Association, being called upon to criticize Mr. Sprague's paper, said: With regard to this subject, it is almost like repeating the Gospel to repeat these ideas. We all seem to be agreed to a very great extent with the principles that Mr. Sprague has set forth. I was a little disappointed in the paper. I understood he was going to talk on the silo; instead of that we got a sort of fine sermon on economy in the production of milk. I think he spoke very truthfully in saying that the first thing was to look after the cow and then after the handling of the milk. Now, the kind of cow to keep is a subject that, perhaps, it is just as well not to go into particulars about. Of course there are a great many different breeds. We find a beef strain and a dairy strain, and they both have their defects, and there are also defects of crosses between these. Of course, if we could get a good cross for dairy purposes that would be all right. We know it is difficult to get this milk strain in perfection in cross-breeding, and that is where the trouble is with the general purpose cow. I do not know that I would go for making a complete change all through, except you are prepared to go into dairying as the one special branch of your farming. If you are, then get a dairy cow. Breed with a specific object. If we can improve on the progenitors of course it is all very well, but it does not pay the average farmer to make experiments in that or any other line. I know we are in a position to get good help in the line of making experi-

ments without doing it ourselves. We have the Dominion Experimental Stations and the Ontario School of Agriculture vieing with each other in making experiments for the benefit of the farmers. I am glad to see this work on the increase. It will cost something—of course we cannot expect that it will cost nothing—but when we are all paying for it the cost upon each is very insignificant and all get the benefit. I believe they are going to have a special dairy course at Guelph, extending over the months of February and March. They provided for fifty students, and in a very short time after sending out their circulars they had applications for over one hundred. That was three weeks ago, and by this time they may have a great many more. This shows there is work to be done, and that there is an anxiety throughout the country to get this information. (Hear, hear). We find that the countries which are now making their mark in dairying —take Denmark for instance, and some of those other continental countries—have been enabled to do so largely through the encouragement that has been given to dairymen, for at the time when this instruction was first imparted they were about as far back as it was possible to be. That is, they were feeding carelessly and handling their produce ignorantly—putting their produce on the market in the worst possible form—but now we find them leading the English market in butter and getting remunerative prices. Now, we want to get educated in much the same line. We have a notable example of that in the cheese industry. Why does our cheese stand so well in the Old Country market to-day? Simply because a united effort has been made to improve the quality. You must have system, and if it is left to individual efforts it takes a long time to accomplish anything, but by means of dairy associations a knowledge of correct principles has been spread through the whole country. Now, we find that Quebec has taken a very strong stand in producing first-class cheese. A few years ago we found that our butter industry was in a very unsatisfactory condition. The trade had declined until it was almost nothing, and what was exported was sold at prices which showed that it was not fit for table purposes at all. But through judicious assistance we have been able to make rapid progress. I know we have made a very marked increase in the number of creameries in operation, and I am satisfied we have made a very much larger production in the creameries in operation this year than ever before. I am safe in saying that nearly all the western creameries have made an increase of one-third in the matter of production. We find the exports from Montreal have doubled as compared with last year, and I think the exports this coming year will be even more favorable to the trade of Canada. It must be very satisfactory to the well-wishers of the trade to sell at so good a price. I am surprised to see that some people are trying to establish a trade in hay between here and the Old Country. I am happy to know that it has turned out in a great many cases disastrously. We do not want to send our hay to the Old Country when we can, by feeding it to cattle, send it over in a form where the freight will be only a slight charge on the cost of production. It is much better to sell your products in a town where you will get 22 or 23 cents a pound and can transport your product for $\frac{3}{4}$ of a cent a pound. You will see the folly of shipping those products in a form where you have to pay two or three times that amount. We do not want to say we will prohibit this sort of thing, but we want by education to get the farmers to change; in fact we do not want to sell hay or coarse grains for that purpose. We surely have enterprize enough in Canada to feed up all our stockers, and not send food for cattle to compete with our own fat cattle. We want to do these things in a business way, and the only way we have of educating the masses of the people is through our associations and institutes and by means of literature.

## CANADIAN BUTTER AND CHEESE IN GREAT BRITAIN.

The PRESIDENT: I may say that you could easily see the wisdom of the committee in selecting our good friend, Mr. Sprague, to talk on economy. He is the great economist of this Association, and he has always been talking economy in every possible way, and I am sure his address has been remarkable in giving us points in our business. It certainly is not very good economy, as has been stated so well, to ship our hay away, and

then not have any product here to represent it on the farm. It is the greatest possible economy to feed all our coarse grains and hay and everything we can raise, in order to make a better cow and so that it may be kept on the farm to enrich the soil. I was delighted with Mr. McMullen's remarks with regard to this province of Ontario. There is no doubt in my mind that this province is better adapted to carrying on agriculture or anything else than any country in the world. How foolish of our young men to go to other countries, or even to the North-west, when we have the rich soil here and every facility to carry on the greatest industry we could have in the country. We have made rapid strides. The fact that this year we have shipped twice as much fancy creamery butter and obtained larger prices than ever before, and, not only that, but during open navigation shipped 350,000 more boxes of cheese than in any season before, shows that people are becoming alive to the importance of this great dairy industry. What has been done in the past is nothing to what can be done in the future. I believe there is not a farmer in the province but can enlarge the profits from his stock, by producing a larger quantity of butter of better quality and using more economy in the production. For instance, by growing corn properly they can get 30 tons to the acre at a cost of $1.30 a ton. When put in the silo, experiments have shown that two tons of this corn, if properly saved, will make more milk than one ton of hay. You can see the line of operation. I am delighted that there are those here who are prepared to stand up for this great province and say that we have all the facilities for putting our ideas into execution; that we have a climate and everything exactly suited to carrying on this business. Great Britain annually imports about $25,000,000 worth of cheese, and yet we only furnish about one-third of the requirements of that great country, and not two per cent. of the butter it requires. You can see the great extension we can make in our butter trade and still be small furnishers of that great country. So I say that it is of the greatest possible importance that we study economy. Let us aim at producing the most we can of the best article and at a lower cost than we are doing to-day, in order that we may not only send 33 per cent. of Great Britain's requirements of cheese and 2 per cent. of the butter, but 50 per cent. of each. We have Prof. Robertson in the Old Country now with an exhibit of our cheese and butter that is taking a remarkable place there. At an exhibition held at Liverpool on the 7th and 8th December they were astonished at the quality of our butter. I do not believe that Denmark or any country in the world can produce as fine butter and cheese as we can. By improving the quality and quantity of our milk, by bettering the condition of our stables, by putting the best intellect into our work all around, and making a special business of butter-making, we can at once put ourselves in the first place as a producing country. We can show that Canadians have intelligently taken hold of this industry as a business, and make of Canada one of the greatest producing countries in the world. This ought to be the patriotic desire on the part of all in Ontario. Do you ever think of the city of London, England, where they do not grow even a solitary onion to feed anybody, but are depending on the world for their supplies? Then what we want to do is to improve our product, to economically produce this product, and place it on that market in competition with the world, and show that this province can beat the world. Our cheesemen have beaten the world in the production of fancy cheese, and I hope our people will take hold of this business so that before long we will be the great butter people of the world as well; that they will enable us to send on this fancy Canadian butter, and then the money will come in and do us all so much good. (Applause).

## HOME DAIRYING AND THE CREAMERY.

Mr. Thomas Brown, Holstein, was then introduced. He said: "In regard to Mr. McMullen's remarks, I fully endorse them, particularly in connection with our Province, to which I am loyal. The virgin soil, it is true has passed away and especially the opportunity for the profitable production of wheat has gone from us We cannot produce wheat so cheaply as they can in the great North west or western States, and it would be foolishness to make the attempt. I think what wheat is produced in Ontario at the

present time does not pay for its cultivation. In connection with this dairy industry I think it is wise on the part of the agriculturist to-day to look in the direction of producing butter. The advantages of the creamery are as greatly in favor of the farmer as are those of the cheese factory. I think that all butter should be made in the creamery (Hear, hear). I believe that the butter made in the creamery is made cheaper and is made better than on the farm, and I will tell you the reason why I believe it is made cheaper. If a farmer having six or seven cows attempts to make butter of a good quality he has got to keep his cream in the proper condition and ripen it and churn it, and it will take as much time to prepare ten pounds of butter as it would to prepare 200 pounds in a creamery. Then, I may add, after all he cannot produce as good an article as the creamery. Why? It is easier to educate 100 people how to make butter than to educate 5,000, and when you educate 100 butter-makers in creameries they can a good deal more than make butter for 5,000 patrons. Then those who have devoted their whole time and attention to the business have a better opportunity to become experts at it. Again, butter produced in the creamery is of more value than that produced on the farm. So, for many reasons, I think we should throw aside this idea of making butter at home. I know this by experience, for now that the creamery is closed, I am making butter at home. I am forced by necessity to do so. In regard to the production of food, we can produce what is best adapted to our purpose if we will only pay attention to what those say who have experimented in the production of cheap food, especially in connection with the silo. There is no question but that is the cheapest food we can produce as agriculturists. As Prof. Robertson once said, we have not always the control over our markets, but there is one end of the business we have the control of, namely, cheap production. Of course if we can produce food cheaply we will have a good price even if it is not a very high one. I would advise my fellow-farmers to take hold of this thing. I love it. It is my profession. I am convinced that the hope of this country is in the dairy line. I am not saying that you should always make butter. Circumstances must be considered. If you are going to raise stock you can make butter. If you are going into cheese-making, why of course you cannot make butter. A commodity is made in butter which deteriorates our soil so little that you can scarcely name the amount of deterioration. It is wise to go into this business, because we have to look for an outlet in a foreign market for most of our farm products, and we can send $500 worth of butter in a ton, which is a greater value than anything we can transport in the same quantity. It seems to me for every reason that we ought to go into this business with a heart and will. There is a great deal of jealously among farmers as to the management of their product in connection with the creameries. Farmers as a whole are too suspicious of the business. Now I have had connection with a creamery for seven or eight years, and at first found a good deal of this sort of thing. Well, I find those people are becoming more and more satisfied that their affairs are properly managed, and this last year we have increased our production by more than one-third and we expect to increase more. I am in favor of dairying, and particulary in favor of the creamery, and would advise my fellow-farmers to go into it. There is nothing in Ontario that I know of that will pay so well at the present time. (Applause).

## STORE BUTTER *VS.* CREAMERY PACKAGES.

Mr. A. S. Allan, M. P. P., Clifford, after a few preliminary remarks, said: Those who know me here are aware that I am not a farmer, and therefore I have a little diffidence in addressing an audience where you are all farmers, on a farming subject, and particularly when I look around and see so many experts present. But I have had some experience in this matter of butter-making; I was one of five to build the first creamery in this locality a few years ago. We did not call them creameries then; we called them butter factories. But we manufactured butter and excellent butter at that. I have been in the general store business for nearly a quarter of a century, and during that time I have always handled butter; but I do confess that I have paid very little

attention to what particular class of cows are the most suited for dairy purposes. Of course that is a purely practical question. All the time that I have been engaged in business I have seen a great injustice done to the farmer and the merchant, because, a great deal of the butter was badly made and badly handled. I am glad to say within the last few years it has been better made and better handled than formerly. Of course there is a great deal of bad butter still, but there has been an improvement. The last speaker said it was more profitable to manufacture the butter at the creamery than at home. Now, that is strong, but I think the farmers ought to be able to talk a little stronger and say that *undoubtedly it is better*. In sending milk to the creamery you can tell what you get for it and then judge the difference between what you get in cash or store goods and you can tell for a certainty whether it is more profitable. Generally speaking, I should say it is more profitable, for these reasons: I buy from farmers over the counter at several cents a pound less than some of their neighbors are receiving at the creamery, and pay in store goods. Perhaps you think, and I have no hesitation in saying, we have no right to handle a pound of your butter unless in packages There is no reason why, in these last few years, with all the facilities we have for shipping you should not send it direct to some of those who are dealing in butter. While you pass it into the local merchants, I am compelled by custom to take it and give all the same price. You know it will not do for the merchant to tell the farmer how to improve his butter. Just one instance: I once undertook to give a lady customer some advice, "You get up your butter very nicely," I said, "and you are entitled to fully a couple of cents more than the market price. But do you always feed about the time of milking?" "Yes, before milking," she replied. "I thought so; it is turnipy; I can detect a little of it," I said, "but it is very nice butter." "Then," I said, "but you need not put so much work on it; it is just as good if you work the buttermilk out of it and no more." She never came back to me with another pound of butter. (Laughter). Well, now I am glad to know that the Creamery Association are taking the matter in hand, and that the people are being reached by lectures and bulletins and meetings of this kind, because if you left it to us merchants you can see where you would land. As I said before, I was interested in a creamery and found it a benefit. I lived in the adjoining village seven miles north of this. We are surrounded by creameries, and I am glad to know that there is being so much done and so much improvement all along the line in this respect. I was surprised to learn of the enormous increase of butter made in creameries last year, and I do not know why Ontario in particular and the Dominion at large should not be a great butter-producing country in a few years. We are adapted to it, and I have no doubt but in a few years a great deal more will be heard of Canadian butter. A few years ago we had beautiful wheat coming in here, but the times are changed, and now the farmers must turn their attention to something that will retain the fruitfulness of the farm and at the same time produce them a livelihood. A great many of them have gone into this creamery business and they are well satisfied, and I believe the land is being improved, and the general state of the farmers is more prosperous than it has been for a number of years past. Mr. President, we are glad to know you selected one of the most advanced seections of the province for your present convention. I hope to be here during the three days of your sittings, and perhaps I may have an opportunity of putting in a word again, and I am thankful to you now for the opportunity to say a few words to the gentlemen present. (Applause).

## MANAGEMENT OF CREAMERY BUTTER FOR PROFIT.

Mr. M. Moyer, Toronto, was called to say something on the "Management of creamery butter for profit." He said: I am on the programme to speak to-morrow and shall not say very much now. I am glad to meet with you to-day. These conventions I look forward to more as a sort of holiday occasion than anything else, leaving business behind and meeting with my friends who are interested in the great question of butter-making. Some of you who are present, have, perhaps, heard me speak of this

question 15 years ago. I think it is 10 or 11 years ago since I did missionary work in this part of the country, or a little north of here on this very line. I did not find, when I called meetings to talk of the importance of improving our butter the idea in such general favor as to bring together a meeting like this. Last year I think I told the Convention I once called a meeting and had only one person present to speak to. Not shirking my duty I got up and said everything I had to say, and gave that man such a talking to as to satisfy one point in my mind: Before that I heard that it was possible to "talk a man to death," but I never had any faith in that idea afterwards. (Laughter.) I am not a prophet, but I believe the time will come when you will not think of making your butter on the farm any more than you now think of spinning your wool at home. There is no use trying to educate 5,000 people to do the work that 100 can do perhaps. It is quite possible to get the 100 to do the work well, but so long as you try to get the 5,000 to do so you fail. We have failed. We have heard the talk of our rapid strides. I do not think there is any reason to congratulate ourselves. I think we should be more advanced than we are now. I think we are entirely too slow. We have been convinced 20 years ago—every merchant in the country has been convinced, and I believe every farmer has been convinced as well—that the way the butter was made has not been satisfactory and has not paid. Why is it that we have gone on in the same way so long? We have made a little progress, it is true. I believe the bulk of our butter, take it all through, is a little better than it formerly was. But the system of making butter at home is wrong, and I do not know anything that will take its place except the system that has put our cheese in the position it occupies—the co-operative system. I have gone through this butter business, and have had, perhaps, as great an experience of its different parts as any man in this country. I have handled it as a storekeeper, taking it in from customers until I got thoroughly disgusted with it; I have run creameries for a number of years; and now I am at the other end—in the city selling it to the consumer direct. Now, I believe if the farmers continue to make the butter the best school they could go to for a short time is Toronto, and sell butter there for a while. There it is that you will find out what butter is worth. You examine it and taste it, and nine out of ten times it is no good or not good enough. Of course there are some men who will buy such butter because it is cheap. The best education a person can get, I think, is to sell to the consumer. Let me say that in the city the people are far better judges of butter than those who make it, because there they have a variety to find out from. Some farmers think they are the best judges in the world. A farmer's wife makes the best butter, in his opinion, because he is used to that and thinks it is all right. She thinks it is all right, too, because she has no opportunity of comparing it with other makes of butter to find out the difference. When I was in the creamery business my great difficulty was the lack of means for testing the cream. Some of the farmers sent to the factory milk instead of cream. That reminds me of the story of the two showmen down the country. One said of the other: 'He is a fool and don't know it, and when you tell him he won't believe it.' (Laughter.) I tried to get them to be honest, and could not make an impression. Well, necessity is the mother of invention, and now we have the tester that tells the truth. A few years ago we bought wheat by the eye; but sometimes we found that all the good grain was at the top of the bag. Men could not trust one another, and so they got a little machine to say that is worth so much a bushel. So with this creamery business, a little machine has had to come between men who pretend to have wisdom and intelligence and honesty, and decide the matter and say what is honest and square. I wish we could get a machine that would come forward and say this sample of butter is worth so much and that sample so much. If someone would invent such a machine it would change the character of our butter more than all the talking in ten years. In all things we are educated by those who buy our produce. If a tailor does bad work sometimes, and we never find fault with it, he would be so far behind in a year or two, that he could not fit anybody. The storekeepper who takes butter from customers is in a position that he cannot say anything about it, and that is the reason it has been so neglected. Merchants, as a rule, tell everybody that their butter is 'the very nicest,' even if it is so bad that they don't know what to do with it. Now, we all know that

after our great North-west was opened our wheat business ceased here, and there is nothing left for the farmers to take hold of except dairying, and there is a field open in that line. There is something in your hands in this direction by which, if you will properly utilize it, you can produce your butter over and above your grain. You will improve the fertility of your soil so that you will raise more grain and produce of all kinds, and have your butter over and above what you have now.

A MEMBER: I think it is Governor Hoard who throws out the idea that 'pooling' is a great mistake. We have in the creamery now a standard for measuring the butter-fat in the milk, and there is consequently good reason for producing a better quality of milk than formerly. If those who are buying butter from customers would set their feet down on this system of pooling butter, I think it would be one of the greatest things which could happen. Those men who are dealing in butter are doing the very thing that is injuring the butter in the country. If the merchants would only put their feet down on the present system of trading, and paying the same price to every seller, whether the butter is good or bad, and would say to their customers, "takes it to the market," they would be doing a great deal to help the butter industry

Mr. MOYER: I do not think I ever bought a pound of butter in this way in this country. But if I did not do it here I did in other countries. If I were doing business in a country store I would do the same thing again. It is dollars and cents with the farmers and with me. I would rather do that and keep my customers than drive them away. They only way that system can be remedied is doing away with the farmers making dairy butter. I know that the storekeepers ought to pay different prices for different qualities of butter, but of course if I am a customer, when I come to the store I expect to get the best price. It is all "the best" butter—all the same quality. Especially is it the best butter if your customer should happen to be a voter of the right stripe. (Laughter.)

The PRESIDENT: There is, no doubt, a great source of trouble in this way. In the town of Brockville, where I live, the merchants never touch the butter. We have three or four men in the produce line who buy it all. If a man's butter is only worth 10 cents that is all they give. It has the most salutary educating influence in the world to let the makers of it know that it stinks just a little, and is worth only so much. (Laughter.) In our county we are manufacturing butter right along, fall and winter. In several of the cheese factories, just as soon as we have stopped making cheese in the fall, we begin manufacturing butter. The cheese factory owners here ought to put in separators and begin making butter in the same way just as long as people will supply the milk. I have been very much gratified by the speeches of the members and the farmers, and the genuine ability displayed by those men; but I presume you know that I am from the banner county of Canada. We manufacture more cheese in Leeds and Grenville than is manufactured in any other county in Canada, or, farther, so far as I know, in any other county in the world. We manufacture not only the largest quantity, but the finest quality; and I believe, farther, we have the most intelligent farmers in the world. (Hear, hear.) Why? Because they are making between $60 and $70 a year per cow. I can give you a number of farmers who milk their cows ten and a half months in the year. A great many will tell you that is going to injure the cows, but I tell you no. The milking of a cow ten and a half months teaches her that that is her business. She will give more milk and better milk and larger quantities from year to year, if she is housed and fed properly. When she has summer conditions at the temperature which we now have out doors, is well bedded, has plenty of green corn, and plenty of ground oats and peas and green clover to feed along with them, you can make more milk to-day than at any other season of the year; and, further, you can get a bigger price at the factory for your milk then in summer. There are no flies to bother you now. (Laughter.) Now, what we want to do is to lengthen the time of the cheese factory to over five and a half months in the year, and then, instead of closing them the greater part of the year and letting the cows go dry, continue to make butter in those factories during the fall and winter. We, as agriculturists, must make up our minds that we have got to run our business for a longer period of the year; we have got to have more money coming

in; we have to give our cow comfort the same as any man gets. If you want him to do any service, he must be housed and fed and warmed in order to do the best work. We have three creameries in Leeds to-day that are running and making the very finest quality of butter. From conversations with their owners I learn that they are manufacturing this milk more cheaply than in the summer. Now, the silo question I expected would have been more fully discussed. It is a very important question. A great many people think that if you tell a cow to give a smaller or larger quantity of milk she will do it. (Laughter.) If you put buckwheat into a fanning mill do you think flour will run out at the other end? Just according to the food a cow receives will be the product she gives. If you want to have a rich, wholesome milk you must have the very finest of food fed to cows that are healthy, and in that way you will get the very finest product that can be manufactured in the world. I suppose you know how we selected the cheese that went to the Colonial Exhibition? When the dealers saw them even they were perfectly astonished. We selected the factories first which had the proper machinery and the best makers. We then selected the farmers who were sending the finest milk to those factories, and notified them that we wanted their milk for a special purpose, and asked them to take particular care of their cows. The milk from these best people was taken in, and the cheese made from it was sent to represent the Canadian make. To see the quality of cheese produced in this way should make any farmer say, "I am determined to do the best I can; I will have a better cow, and I will have summer conditions in the winter time. I will have the food to feed to the best advantage, and will send the milk to the factory in the best shape." If the farmers, generally would only do this, hundreds of thousands of dollars could be brought into the country more than we get at the present time. This could be done if we could only get the farmers to take hold of this business as it should be taken hold of. I do not think it needs any talk on the part of anyone to show what we could do. Twenty-three or twenty-four years ago we imported cheese from the United States. Now, there are 800 factories in this province, and you know the vast amount of money we receive from this business. Now, that has been brought about within a few years, and the quality we have to-day is just a beginning to what we may do. I had understood that Mr. Sprague would speak of the silo. You know about the growing of corn 30 tons to the acre, at a cost of $1.18 per ton—which was the record of the Dominion Experimental Station at Ottawa, two tons being sufficient to feed a cow for one month. Some farmers say the silo has been a failure. There never was a silo that has been a failure where a man knew how to do the work in connection with it. There have been failures where, for instance, the corn was cut too green; but where it was allowed to grow until it had glazed in the ear, then it has come out of the silo in grand shape. A great many farmers, however, make the mistake of feeding silage alone. Would any of you want to be fed on potatoes alone? You could live, but you could not do the best work on that; nor can the cow do the best work on one kind of food all the time. Give her a basketful of green corn in the morning, with hay and plenty of good grain, and you will keep the cow up in a healthy condition and get the best results. This is a discussion that ought to take place, and I would like Mr. Sprague to go a little further and give us his experience of the silo. He has been successful in the handling of silage, and I am sure we would all like to have the advantage of his knowledge, because I think there is no question so important to the farmer as the feeding of cows in the winter. Judging from experiments conducted at the Central Experimental Station, corn is the cheapest silage in the world.

Mr. McMullen: Before Mr. Sprague proceeds, I would like in the first place, to suggest that he should tell us how to build a silo. What is considered the best mode and the best place for building a silo?

## A TALK ABOUT ENSILAGE.

Mr. Sprague: We are told by someone that knowledge is power, and allow me in preface to say that I think if we have a full knowledge of our business as farmers in this

country we can all better our position and increase our health and happiness. The surroundings in which we are now placed seem to be a fixed fact, and we have already been told that grain-growing for profit is a thing of the past for us. The grand opportunity of this country to-day is, I believe, the butter business. Corn gives us the very largest crop we can produce from our ground suitable for the production of milk. Consequently it is the cheapest crop we can grow, and therefore recommends itself to us as dairymen. The quality of milk we get from it is superior to what we can get from any other winter source of feeding. Those being admitted facts, we proceed to the silo. I think I gave the first address on this subject, delivered at the Agricultural College, a few years ago. I had been looking this matter up. It was said that the opportunity of this country was corn ensilage. Our soil and climate were adapted to the growth of corn in large quantities. At Guelph they had a crop of permanent pasturage. Prof. Brown was advocating that idea at the time, and I think that his reports on experiments with ensilage set the silo back for years in this province. At a convention in Toronto I got up in the audience, and asked for information as to ensilage. Someone stood up after me and said: "I think the farmer who builds a silo should get a divorce first—the stink is so bad that after handling the silage he could not live with any decent woman." I did not feel satisfied. After the convention I had a talk with Mr. Valancey E. Fuller in his office in Toronto. He said: "I want you to taste this butter." I tasted it and considered it very fine butter. He said: "The cows that are producing this butter are being fed on ensilage." I was surprised that butter of such quality could be produced in the winter season. I went home fully convinced in my own mind that I should find out more about ensilage. That summer my son visited New York State and came home satisfied that our favorable views of ensilage were right. We built a silo and fed our cows on it. Afterwards I was asked to read a paper at Guelph, and did so with great reluctance, but found that Prof. Robertson had, up to a certain point, became a convert to the idea of feeding ensilage and had no voice against it. Since then we have adopted it, and found it a sure success. Take, for instance, the season of 1889—we had a drouth which set in in the early spring and continued into the month of July, and the result was that we got short crops of all kinds. That was our first year with ensilage. Winter food was so scarce that farmers sold their milk-cows at $10 apiece and young cattle in proportion. That winter, from the product of 13 acres, there was, I think, the product of nine acres in ensilage, and of three or four acres of field corn—we wintered from October to the coming spring 35 cows. We bought cows that autumn at those low prices and wintered them in fine condition. We made butter all winter and fed pigs, which yielded us additional money. Well, if we had not had the corn we would have had to sweep the stock off our farm. Outside of the corn we had not enough food to feed five cows. As to building a silo, if you have a barn, take the hay-mow, throw stone and brick into the bottom of as much of it as you want to use for your silo; build stone-walls, board up the sides and you will have a silo for the next 30 years. If you are in a country where you have no stone, take matched boards, using two thicknesses of lumber, and use tar-paper, and line up the inside with tar-paper. Have the wall plumb, narrower, if anything, at the bottom than the top, so that as the ensilage settles it will become tighter. It does not matter whether you build your silo of stone or boards. It is all owing to the cost of stone and the cost of lumber in different localities which you use; my preference is for a stone silo. As you fill in your ensilage put in your boards and tar-paper up the inside, and as you feed down you take out these boards. All of you farmers have got barns, and each of you have a hay-mow. If the barn is on a bluff, and there is good drainage, you can go down into the ground, three or four feet if you like. It is necessary that you should get all the depth possible. Now, then, so far as the growing of corn is concerned, any species that will mature early will make good ensilage. Corn is a heavy crop and should be grown as near your silo as possible. In the spring we gang-plow and harrow where we are going to put in the corn, and when the time for the seeding comes, which is about the 24th of May, we put it in with seed-drills. We close the drills that we do not want to sow with and leave open those that we want to plant with. We close the drill so that we shall sow two drills at once. As nearly as we can we plant 32 to 40 inches apart—three pecks or a bushel to the acre. Red Cob, Mammoth Southern and Stolze's Ever-

green are corns suitable to our climate. We have ourselves used Red Cob and Mammoth Southern mostly. Last year we had 300 or 400 bushels of ears of corn, and the silage came out in as good shape as it was when put into the silo. Some years we cut with the sickle and throw the corn into large bunches and allow it to lie a day or two in the field previous to putting it into the silo. We have a low waggon fitted up with a rack like a cord-wood rack for drawing the corn to the barn. There we put the corn through the cutter and carry it to the silo. Last year we sowed thicker and closer together so as to get smaller stalks, and we cut it with a binder. We used the first few years the Ross cutter, made in Ohio. We use now a cutter made at St. Mary's, I think they call it the Monarch. I think it is as good a cutter as we want. It is not very dear, and it will cut all the corn that any can cut in a day.

Mr. MARTIN (Whitchurch): What length do you cut the corn?

Mr. SPRAGUE: About three-quarters of an inch. If you plant the corn three feet apart it grows so high that no binder can cut it.

Mr. WENGER: Don't you believe that the Stolze's Evergreen, though it does not grow so large as some of the other varieties, makes a better ensilage, because it grows a large ear and makes a sweet kernel?

Mr. SPRAGUE: For stall-feeding in the fall it is all right, but for ensilage I should not attempt to grow it. The objections I have to it are that the seed is so expensive; that with the best selection we could make we could not get it to grow, and it is a hard corn to ripen. It matures earlier than other corns, and, as you say, it has more leaves and larger ears, and therefore it is better fitted for fall-feeding. We find that ensilage becomes cooked in the process of curing, softening the stalks as well as the ears, and we find Mammoth and Red Cob corns give us a grand food, and therefore we give them preference.

The PRESIDENT: I would just say, in reference to experiments conducted in connection with the Central Experimental Station at Ottawa, that they claim as a result of their investigations that the way to sow corn for ensilage is to use eight quarts to the acre, planting in drills three feet apart, with the kernels to drop eight inches apart, and that it is better to use this quantity than to grow more. Corn is a sun-plant, and if the stalks are set too close together the sun does not get an opportunity to do its work. I believe in intense cultivation of the soil before the corn comes up at all. It ought to be cultivated, with a harrow having teeth slanting a little backwards, caterwise across the drills; then the other way across the drills, just as it is coming up, and continuing the cultivation until it is three or four inches high, or even when it gets higher. Cultivation will give the moisture a chance to come up out of the earth, and in a dry season the moisture that comes from the soil will feed the plant. By following those directions you will have a well-matured corn which will make better silage than you can otherwise get, and such silage will give you more and better milk. There has not been a word said about manuring the land. For a corn crop give the land just as much manure as you think it ought to have, and then put on twice as much more. (Laughter). When you are going to cut corn for ensilage let the crop stand three or four days before cutting than you think it ought to stand. Be sure that it has thoroughly ripened for your purpose, and then you will have a silage that will be nutritious and sweet for a year-and-a-half if you want to keep it so long. Now, regarding the building; what you want to do is to exclude the air. When your wife is making preserves she heats it for the purpose of killing the germs of ferment; then it is put into bottles warm, and corked up, and sealed. Such preserves will remain in good condition for 14 years if the air is excluded. Now, in silage, the air needs to be excluded. Be sure you get a foundation for your silo that will not give out. Instead of putting it down into the ground, put in a foot of dirt on the inside until your foundation is that much higher than the ground outside; then put in your sills and have them properly bound so that there is no chance of their shifting; take two scantling, 16 inches high, cut a cap of eight inches, put right under the sill and run right down under the dung on the inside. You want the inside walls to be straight and be sure to have it properly set at the top; board it up and down with rough boards,

lining it with tar-paper; be sure to break joints with the tar-paper; then put on floor-lumber—that is planed and tongued and grooved—on top of the tar-paper up the inside; put in a foot or two of straw at the bottom, and then fill the silo with corn as long as you have any; tramp down the corners as you fill in the corn. If you have two silos fill into them day about. When you have the silo full you may put on a little covering of hay, although some do not put on any covering at all. This will make a silo of cheap construction. I would rather have a lumber than a stone silo, because it is drier. I know one man in our locality—Mr. Bissell—who, last year, raised over 30 tons of silage to the acre. He gave his soil intense cultivation and the cost was less than $1.00 a ton. He was feeding right into June this year, and he realized $66 per cow for his milk. He is furnishing milk to the creamery to-day.

A Voice: What is the best kind of cow to keep?

The President: If you are going to send your milk to a creamery and get paid for the milk produced, keep a Jersey. Don't make any mistake about that. If you are going to pool your milk and get paid for weight of milk, get a Holstein that will give you four pails of milk in the morning, and she will beat the earth. (Laughter).

Mr. Wenger: There is no such thing as pooling milk at creameries now. When you go to the store with your butter you have to pool with your neighbors. I wish you to understand that the first prize at Toronto last fall was taken by a cream-gathering creamery.

Mr. McMullen: I was greatly pleased with the quality of butter and cheese from this section at Toronto, and I remarked that Kennilworth took the first prize. I hope that a number of our farmers will make the experiment of building silos.

## SECOND DAY.—MORNING SESSION.

The Convention resumed at 10 o'clock.

### WELCOMED BY THE CITIZENS.

Mayor Henry gave a hearty welcome to the Association. He was satisfied that since the manufacture of cheese has been promoted the farmers had shown every evidence of progress in their farming operations, and continued: The particular department of dairying which you advocate has not been entered into at all in this immediate section so far. When I came to this part of the country, some 16 years ago, grain-growing was the system of farming. The result of this system has been, that, while it was successful for a time, bye-and-bye nature asserted herself and the soil refused to produce the grain, and everyone knows that eventually farming was a failure. I am sure if you have time to see the land about this town, you will soon become convinced of the fact that the people of this section are quite alive to the advantages of dairy-farming. They are going largely into stock, and, particularly, of late years into cheese-making. Now, I do not see why the two should not go hand-in-hand. I think they are just the right elements to bring success and prosperity to the farming part of the community, and, of course, if the farmers meet with success we all share it to a very large extent. (Applause).

Mr. George Grey, ex-mayor, also added words of welcome, and went on to say: In welcoming your Association we recognize the fact that you are engaged in a very important industry—one that is beneficial, not only to those engaged in it, but to the whole province. One thing that I may remark is that Canadian dairy products lose their individuality to a great extent in going to the Old Country. Not long ago when I paid a visit to the cities of Edinburgh and Glasgow, I took particular notice of what was going on in the provision stores, and while I saw no mention made of Canadian butter, I could see in these stores stereotyped signs announcing fresh arrivals of Danish butter and eggs. I failed to see one thing in Glasgow and Edinburgh that was known as Canadian. One of the strong points in exporting to Great Britain is to let the people there know

where your produce has come from, if it is a superior article. They are not going to buy unless you have a superior article. I went into a fruit-store and I saw three barrels of Northern Spy apples, an inferior sample, and not Canadian apples at all, but which were being sold as such. I did not, however, see one article stamped Canadian, but everything from this country was called American. With reference to our butter, I would say, let them know where it comes from and do not let it lose its individuality. (Hear, hear.)

Reeve SMITH, on being introduced, said: I am glad to be here and on the committee to welcome you to our town. I hope the visit will be beneficial to our business. I have felt so much interest in farming that I have recently invested in some land, and I am going into dairy farming.

Mr. JOHN LAMBERT: I would, on behalf of the business men of the town, extend a welcome to you. We all hope that you will enjoy yourselves and carry away with you lively recollections of your visit to Harriston, and favorable ones too, as well. When we look abroad and see the difficulties which other countries have to contend with I consider that Canadians ought to be the most happy and contented people in the world to-day.

Mr. THOMAS GIBSON, M.P.P., Wroxeter, was introduced and said: I am very glad to see you here, Mr. President. You come from the east, and you know the wise men come from the east. (Laughter). You are a man of large stature, and you have a large, expansive heart, I know, as well, and I am satisfied the Creameries' Association got the right man in the right place when they got Mr. Derbyshire for president. (Here, here). After some local allusions to the enterprise of Harriston and the adjoining townships, in the matter of railways, the speaker went on to say: I am pleased to see here my friend, Mr. Hannah, and think I may say that he is the father of the Creamery Association. He is a Huron man, and that is something to say for the county of Huron. (Laughter and applause). In reading your last report I see a statement that in 21 years the export of Canadian butter to Great Britain has fallen off from $3,000,000 to $600,000, and that whereas 21 years ago the export of cheese was only about $1,110,000, last year it amounted to $10,000,000. There must be something wrong about the butter industry. I cannot understand it. In your opening remarks yesterday, sir, you spoke in regard to your position being somewhat like an infant. Well, it is the prevailing policy to protect infant industries, and I think we should extend a helping hand to the Creameries' Association, more particularly as we have gone back so much in the exportation of butter within the last 20 years. (Applause.) I do not mean to give them protection by way of a tariff, but in some other way.

The PRESIDENT: On behalf of the Ontario Creameries' Association I thank the corporation of Harriston and our good friend from Huron for the very cordial reception that we have had from this town. We feel proud of the reception we have received. It seems that every town vies with another in not only having the meeting in its midst, but in having it all the time. I remember distinctly that I agreed to vote for Berlin every year, but our friends on the Board seem to think that it would be better to pass the Convention around, and the result is we are at Harriston to-day. Our good friend Wenger wanted this meeting held at Harriston—it would have warmed your hearts to hear him speak before the Board about this enterprising town—and in consequence of his invitation the Creameries' Association came to Harriston. I can assure you one and all that we feel very much gratified that we selected Harrison for our meeting. Yesterday afternoon, although the Western Dairymen's Convention was going on at the same time, we had a very good meeting and a large turnout of farmers. We had also with us, yesterday afternoon, your representatives in Parliament, Mr. McMullen and Mr. Allan, who gave us words of welcome. We feel proud, sir, of the work we have been able to do in this Association for the last eight years. We know that the butter business was at the lowest possible ebb when this Association was formed—that scarcely a pound of fine butter was being made in the Province of Ontario at all. The best of our people went into the cheese business on account of its adaptability to the wants of this great Province, and the consequence was that something had to be done, not only to make the finest cheese in the world, but the finest butter in the world, and so show the people of

that great city of London that we have the finest dairy country all round in the world. I felt pleased to-day to see that we had with us the members representing this riding and the adjoining riding, and to know that we have their countenance and influence. This Association is here to stay. We have added to the creameries of the Province this year 21, and I believe, with the educating influence we have had in the past year, that number will be doubled in the year to come. (Hear, hear.) This last year we have made twice the amount of fancy creamery butter we ever made before. (Applause). We have taken a good place among the creameries of the world, and obtained a good, substantial price, and I believe, with the intelligence and skill we have worked up, we will be able to do better next year. (Applause.) I feel proud of this reception, and we will carry away with us warm feelings towards the people of this town and section of country. I am delighted to see that the Minister of Agriculture is here this morning. I am glad that he has been throughout his whole course an active Minister of Agriculture, and that he has taken part in the work of agricultural associations throughout the length and breadth of this Province. (Applause.) I am glad, I say, that he has been a live Minister of Agriculture, and has seen that every department of agriculture has been advanced as far as possible, not only in helping them by his presence and voice in the Government, but by being present at farmers' meetings and countenancing their work. (Applause.)

Mr. Moyer: We must certainly think that we are welcome wherever we go. I have been thinking, while my good friend was talking, of mistakes that have been made in connection with butter and cheese production. I am glad to think that the friction between cheesemen and buttermen is passing away, and that we are getting to be on more friendly terms, and I want the cheesemen to appreciate what we are doing for them. Before the creamery business opened men bought milk all over the country at the same price, and there was a tendency among farmers to get the cows that gave the most milk and the least cheese. They had no means of finding out what the quality of their milk was, and all got the same price, although some men knew that it took twice as much milk to make a pound of cheese from one sample of milk as it did from another. After the creameries started we found that there was a difference in the quality of cream. Then we brought out a machine through which we could test the quality, and our good cheesemen are taking advantage of our work and paying according to the value of the milk all through the country. Our friend from East Huron alluded to the fact that Mr. Hannah is the father of this Convention. I claim a little credit in that connection, for I associated with Mr. Hannah in the organization of this Association. I know the feeling of a good many cheesemen is that the butter business is threatening their business, but I think they take a wrong view of the matter entirely. This country will never go into cheese-making altogether, and it will never go into butter-making exclusively. In our organization we had no wish to come into conflict with the cheesemen, but we did not want to see the butter made as it was being made. The system was such a wrong one that we hoped by organization to bring our butter product up to the same level with our cheese, and that men interested in the production of both would work together for the good of the country. There is room for both.

## BUTTER FOR THE HOME MARKET.

Mr. Moyer then read the following paper upon the above subject:

In dealing with this subject I scarcely know where to begin, for it includes almost everything in connection with dairying. What is wanted for our home trade is a well-made, sweet-flavored butter, and the one who succeeds in making a butter to suit the home trade is all right to make for any part of the world. It is like the good old advice, "Take care of the cents and the dollars will take care of themselves." Take care of the home trade and the foreign trade will take care of itself. Year after year we hold this Con-

vention, farmers' institutes are held all over the country, the travelling dairy is in operation, all to proclaim the old story that our butter is bad. While we admit this, we should not loose sight of the fact, that poor work is also done in other lines of labor.

It may look very discouraging when I say that I do not believe that one farmer out of every ten makes good butter, but how does that compare with men in mercantile life, where only about one in twenty succeeds. This, however, should not be so, and the reason why special attention is paid to the butter industry is because the diary industry is so vast, and the loss, not only to the individual, but to the country, so enormous that every one, irrespective of his calling, cannot help but be interested. If a merchant goes into business and losses his money, it has only changed hands and the country has not lost it, but if our cows only produce about half what they should, and the value of that destroyed by one-half in manufacturing, then not only the individual, but the country losses. When we now realize the importance of this great question, and that we are all interested, I hope we can talk about it without hurting the feelings of any one. I can assure you that I always sympathize with the butter-makers, and when I take into consideration the many things a farmer's wife has to attend to, the little encouragement she receives for higher qualities of butter, and the poor and insufficient facilities at her disposal, I feel almost, notwithstanding the poor stuff, like saying that it is a wonder it is as good as it is.

The cry all over the world now is quality; better quality in everything, and improvement in everything is necessary. The time was when quantity, more quantity, was demanded, but now there seems to be more of everything than needed, and only the best quality finds a paying market. The great demand for quantity brought forth machinery, so that now one man produces as much as ten did years ago, and the consequence is overproduction. The demand now is for better quality, and we have to change our machinery and system in order to meet this demand. The question then is, what machinery can we bring into operation, or what system can we introduce that will enable us to produce a better quality of butter. I am not a prophet, nor the son of a prophet, but I think there are some in this room who heard me say ten or twelve years ago that the time will come when the churn will be as little used in a farm house as the now nearly forgotten spinning wheel, and with it will be honored, for valuable services rendered in the past, by giving them a corner in the garret. This prophecy has not yet been fulfilled, *but it is sure to be.* To do better work we must do less. Where the most perfect work is done, is where one man does only a small part of the whole. What sort of a reaping machine, for instance, would you expect where one man made the whole machine? Is it not where one man makes only a particular part, and makes that well, where you expect the best work? Much has been said by dairymen about the general purpose cow, that she was not a success, that she had either to be a cow for milk or one for beef, but the two could not be combined in one animal. Now, I think the same rule holds good with men and women. A general purpose man or woman is not a success (the Minister of Agriculture excepted). A person cannot expect to do everything and do it as well as the requirements demand. The time was when the farmer boasted of the number of acres he had under cultivation, but now it is more, how many bushels he can raise to the acre, and of the high state of cultivation of his farm. Time was when the farmer talked of the quantity of butter he made, but the time is at hand when he will talk of the high quality of milk and cream he can produce. His great aim and study will be to get cows that will pay to feed, and how to feed them to the best advantage, and how to handle the milk so as to attain to the highest possible standard, as material to produce the finest quality of butter. Without having to give attention to all the details of dairying, he can learn to understand this part to perfection, and the creamery will take off his hands the work that follows. By cutting up into parts and systematizing the whole work, we can expect to accomplish the highest possible results, and attain the highest place in the world as a butter producing country. On this principle has the cheese gained its high reputation, and all other enterprises, and we look in vain for the butter to do it on any other line. Having already shown that we, with our common failings, are all on the same level, and need the help of each other, therefore it is necessary that we have more confidence in each other. Selfishness has grown to be intolerable and the worst enemy to the dairy interests.

I have no room for a man who thinks that unless he runs his farm, the business of the town in selling and buying, the railway, etc., he is cheated and robbed. With the speed we are moving in, the farmer cannot afford to drive 40 or 50 miles with his wheat to market but he takes it to the nearest market where the railway takes it off his hands. This convenience is now admired by the farmer, but the speed is constantly increasing. Instead of steam we have now electricty, and the farmer has still to cut his trips shorter, so that in the keen race, he can more properly attend to the duties which lie nearest his door, and in which his pocket is more especially interested. I know, but I think very erronously, the farmers cherish not the kindest feeling towards the middlemen, and with this feeling are very slow in giving their patronage to the creamery. This feeling does not only show itself towards middlemen, but it has grown into such a mean habit that they scarcely trust each other if a creamery is started on the joint stock plan. If my idea of doing only a part of any work, to produce the best results, is correct, then the middlemen are as necessary to do their part of the work as the railway is to carry it to the consumer, and if necessary then they deserve your confidence and generous treatment. I have no interest in saying a word in favor of middlemen, but when I am asked to give a paper on this much out-of-shape butter question, I must state where, in my long experience, I found the greatest difficulty. Want of confidence in each other and want of co-operation for the general, as well as individual good, are the greatest hindrances to success, and has robbed the farmer of more, infinitely more, than the worst kind of combine or middlemen.

I have no hopes to offer for the butter industry, except the creamery system is adopted, but as this may still take years, the principal part the farmer has then to take is in the care of milk and cream, and as that is also an important part in making butter on the farm, I will now confine myself to that part of dairy work. In watching carefully the variations of the qualities of butter sent in by the same makers from week to week, I am more than ever convinced that the reason is for want of care of the milk and cream before it reaches the churn, and this important part the "travelling dairy" does not reach. Very few farmers throughout the whole country have the necessary facilities and appliances to fit cream for the churn. I have already said that I have no use for a general purpose cow nor a general purpose man or women, and I will now say that the general purpose stove and kitchen must be dispensed with, so far as butter-making is concerned. I am now speaking of winter dairying when the cream has to be warmed. Cream cannot be brought to the necessary temperature for ripening and churning by the same stove and in the same kitchen where the cooking, washing, etc., is done. A butter expert can almost tell what was going on by this general purpose stove and kitchen during each week. I will give you an instance. We have a patron who usually sends us good butter, but one week it came far below its usual quality. The flavor was wretched. On making enquiry we found that one in the family had a sore leg, which necessitated a sort of herb poultice to be kept on the stove for several days to be applied warm to the patient. The smell of this was absorbed by the cream and butter. Milk and cream is so apt to draw anything that is impure in the air that it becomes imperative to keep it where there are no surroundings to taint it. Allow me just here to say that it is criminally wrong for any farmer to sell a pound of butter made in a house where, at the time, there was any sickness of a contagious nature. Butter consumers should not be exposed to this danger, and the only safe way is to have a dairy entirely separate from the house with a stove for the purpose of heating the cream only. In this room no one should enter with the stable clothes or anything else that might bring in any odor that might impart a disagreeable flavor to the dairy. If the old man smokes, never let him see the inside of that room, except immediately after a bath, and minus his pipe. No doubt a good many will go on without this separate place, and to those I would say that the next best thing to do is to use the Cooley submerged cans. Years ago when I introduced these cans I strongly urged the importance of setting milk under water, that is, completely covered over with water. At that time, being interested in the sale of them, I was suspected of selfishness, and even such men as Prof. Brown and others took strong grounds against me, but I believe to-day that if we had continued to practice that system our butter would be 50

per cent. better than it is now. If the farmers would keep their milk and cream submerged in water, and in that way exclude the impure and offensive odors, butter, instead of being loaded with tobacco smoke and the perfumes of the kitchen, would have a natural and pleasant flavor. I will only say a few words in regard to the importance of cleanliness in the stable, but I trust you will look at it with a powerful magnifying glass, and draw from it a hundred times more than I can express, and then you will get at what I mean. Can any person imagine that it is possible to get the milk clean from the cow if she is literally covered with filth? Why does not the cow deserve as good treatment as your horses? I have been on places where the horses were shining, and their bedding clean and abundant, but the cows—what shall I say?—actually standing in filth, and the dirt falling from them, without seeing a curry-comb or brush during the whole winter. Perhaps the poor cow has no soul, but she feels, and if you have a soul have pity on her. Also remember your wife and daughter whom you expect to do the milking, and above all the disappointed ones who buy your butter, but cannot eat it. Clean your cows, bed them well, make them comfortable and happy, and they will reward you abundantly for your trouble.

The PRESIDENT: I think you will all agree with me that I was right in asking Mr. Moyer to prepare a paper on this subject. It has been very interesting. As our time is now very limited we will have a question drawer instituted when the Convention opens at one o'clock; meantime we will have an address from Mr. F. T. Shutt, Chemist at the Dominion Central Experimental Station, Ottawa, and then you can write any question which you want answered by Mr. Moyer or Mr. Shutt, and put them into this question drawer.

## PAYING FOR MILK ACCORDING TO BUTTER-FAT.

Mr. F. T. SHUTT, Chief Chemist, Dominion Experimental Farms, in introducing his remarks on the above subject, said: You are aware that in connection with the Dominion Experimental Farms, as well as the Ontario Experimental Farm at Guelph, work of an original character is being done, the results of which are brought before you from time to time by means of bulletins; but by meetings of this kind you give us an opportunity to bring before you orally the results of those experiments. You also give us an opportunity of learning the wants of our people, and especially in such a Convention as this the wants of the creamery men, and in doing so we are enabled in future years to direct our work in channels which will bring about the greatest good.

I am, for instance, going to bring before you this morning the results of work which are the outcome of your last Convention. I do not propose to give you any preface whatever as to the valuation of milk according to its butter-fat. I will rather remind you that I spoke last year at Brockville upon the same subject, and gave you certain features of estimating that I shall not dwell upon to-day. During the past few years we have been gradually but surely led to recognize the fact that the chief value of milk lies in its butter-fat. We are all learning to realize more and more that this is true, whether the milk is intended for dairy purposes, for the cheese factory or for direct consumption. We are ready to believe, and to put our belief into practice, that quality as well as quantity should be taken into account, and that the monetary value assigned to any particular sample of milk should be dependent upon its percentage of butter-fat. Purchaser and vendor have agreed upon the truth of this, and wish to put the principle into practice by adopting a ready, cheap and reliable method for determining the amount of fat in milk.

In speaking at your Conference last year, I showed that the "Babcock test" answered all these requirements, and gave you chemical proof of the accuracy and reliability of the method. I further pointed out that any one of ordinary ability and skill could successfully conduct the test in the creamery and cheese factory, and lastly, that all confidence could be placed in the results as an equitable basis of valuation.

While many were willing to admit all this, the objection was urged that when every patron's milk had to be examined daily, the expenditure of time was very considerable, and the doubt was expressed by some whether, for this reason, it would really pay to adopt it.

To overcome the necessity of daily tests, the use of corrosive sublimate and potash was mentioned. Either of these added in small quantities to the milk would keep it fluid. A sample of the milk put daily into a bottle with one of these chemicals gives at the week's end a quantity of milk from which a "composite" test may be made. If the percentage of fat so found be multiplied by the number of pounds of milk delivered by the patron during the week, and divided by 100, the pounds of butter-fat supplied by the vendor will be obtained.

The chief objection to this method is the poisonous character of the chemicals used, and it has been urged with a good deal of force that it is dangerous to use in a dairy, substances such as corrosive sublimate and potash, which, although extremely poisonous, are quite colorless. A mere inspection of a sample of milk is not sufficient to determine whether it contains them or not.

It occurred to me that if we could show that the fat of milk did not decompose within, say, one week from the taking of the sample, the use of a preservative chemical might be dispensed with. Further, that by measuring daily the milk to be tested, in a pipette one-sixth the capacity of the Babcock pipette (using one test bottle for each patron's milk per week), a composite sample would be obtained that would show, on testing, the average percentage of fat for the week. To this end I made a pipette delivering 2.93 cc., that is, one-sixth by 17.6, and ran its measure of milk into the same test bottle for six successive days. Every day the percentage of fat was ascertained in the milk by the usual method. At the end of the week the composite sample was also tested, and the result compared with the mathematical average of the daily tests.

It was found although the milk thickened in the composite sample—usually on the third day—no appreciable decomposition of the fat took place, nor any change that vitiated the working of the test. The acid brought into solution the semi-solid milk and the fat readily separated of the normal color; not the slightest difficulty was experienced in reading the amount of fat in this composite sample. The composite sample had not been kept on ice, but throughout had been at the same temperature as the dairy.

In order that you may judge for yourselves of the accuracy and reliability of this modification of the Babcock process, allow me to present to you the following table of data taken from the analyses book. It represents but one series of experiments. Many trials were made, but they all agree so closely that in seeing one you may judge of them all:

Experiments with Six-Day Composite Tests by Babcock Method.

| | Quantity. | Per cent of fat. | Average. |
|---|---|---|---|
| Monday | 17.6 cc | 3.4 | |
| | " | 3.3 | |
| Tuesday | " | 3.7 | |
| | " | 3.6 | |
| Wednesday | " | 7.3 | |
| | " | 7.2 | |
| Thursday | " | 2.9 | |
| | " | 3.0 | |
| Friday | " | 9.1 | |
| | " | 9.2 | |
| Saturday | " | 3.0 | |
| | " | 3.0 | 4.90 |
| Composite sample | 2.92 cc | 4.8 | |
| Monday to Saturday, inclusive | " | 4.9 | 4.85 |

Practically, then, the same percentage of fat is found in this composite sample as is obtained by averaging the percentages of fat got by testing the milk daily. Evidently the souring and thickening of the milk in the test bottle does not affect the butter-fat or in any way interfere with the accuracy of the test.

This, then, gives us one way of lessening the amount of labor required to test milk in creameries. The testing need only be made once a week, and no second sampling is necessary, the milk going at once into the test bottles. Further, no chemicals, poisonous or expensive, are used. And, lastly, let us remember that this economy in time and labor is not obtained at the sacrifice of accuracy.

But I have some further work to bring before you to-day in connection with the testing of milk. It is, in my opinion, of a still more important character.

In Biedermann's Central-Blatt fur Agriculturchenise for August, 1892, there appears an article by J. A. Alén, a chemist of Gothenburg, Sweden. It is entitled "Upon the Preservation of Milk for Chemical Analysis." This chemist has made the discovery that bichromate of potassium, when present only in small quantities, will preserve milk from coagulation and souring for many weeks; and further, that the percentage of fat and of solids may be ascertained with accuracy in such milk. He points out that this compound is a valuable agent for the preservation of composite samples, such as would be obtained in the creamery or cheese factory. His method is simply to place from .2 gram to .5 gram (3 to 7½ grains) of pot. bichrom. in a glass stoppered bottle, in which the daily samples are collected. The bichromate should be purchased for this work in a powdered condition. The measure of 10 grains (the exact quantity is not essential) is then ascertained, once for all, in a salt or other small spoon, and the bichromate measured into the bottles instead of weighed for all subsequent tests. This will effect a great saving of time over weighing. Before the addition of each subsequent sample, the whole is gently shaken, so that the risen cream may become thoroughly mixed with the milk. The bottle should be served in a cool place, though placing on ice does not appear to be necessary. This chemical is a poison, but since it imparts a strong yellow color to the milk, there are not the same objections to its use that there are to corrosive sublimate or potash. I do not think it possible for anyone (unless he be color-blind) to mistake the treated sample for pure milk. Moreover, it is not poisonous in the same marked degree that corrosive sublimate is, so that in the quantities here recommended—3 to 8 grains—no fear of dire results need be entertained.

Our experiments show that at the end of five weeks the composite sample so preserved is perfectly fluid. A perfect sample of it may be obtained by the pipette in the usual way. This bottle that I now show you (here bottle was shown to the audience) contains milk more than a month old. You will perceive it is still perfectly fluid. The milk so preserved works admirably in the Babcock bottle. The readings of fat are very clear, and, as far as my experience goes (in which I was assisted by Mr. C. F. Whitley, of the Dairy Commissioner's staff), the potassium bichromate in no way affected the accuracy of the test. On the chart that I now show you, I give some of our results, so that of this latter and most essential point you may judge for yourselves.

PERCENTAGE OF FAT.

| Composite sample, six days. | Bichromate and Babcock test. | Average of daily analyses by gravimetric method. |
|---|---|---|
| A..... 3.60 | 3.70 | 3.625 |
| B..... 3.50 | 3.55 | 3.505 |
| C..... 4.70 | 4.85 | 4.830 |

This, in my opinion, leaves nothing to be desired on the score of accuracy.

Let me now say something as to the cost of this chemical. It is quoted at 14c. per lb., a quantity sufficient for over 1,000 composite sample bottles. In using it we require no further apparatus; the ordinary Babcock pipette withdraws the desired quantity at the end of the week. Time and labor are both saved by this method, and, further, I think it will give more reliable results in the hands of the ordinary person than the process I described at the opening of this address. That method had two disadvantages—

one, that the milk had to be measured, and measured very accurately, every day, and the other, that there was a difficulty at present in getting a reliable pipette of the required capacity, viz.. 2.93 cc. By using bichromate, the accurate measuring is done but once a week, and the ordinary Babcock pipette is used, of which there is a plentiful supply of accurate instruments.

In connection with this process, I wish to bring before you an easy and efficient method of sampling the milk—a method which, I think, may be new to many of you. When the milk is in the weigh can, I think it is as thoroughly mixed as at any time while in the dairy. It is from the weigh can that I would take the sample. This may be done by means of a tube open at both ends and of about $\frac{1}{3}$ inch in diameter. The milk being weighed in, the tube is placed in the can, the upper end closed with the finger, and the tube then withdrawn. The contained milk is then allowed to run into the patron's sample bottle. This is done day by day for a week, the preserved composite is then submitted to the Babcock test. This method not only ensures a thoroughly representative sample, but a proportionate amount of the milk daily supplied by each patron is secured, which means greater accuracy than when an equal quantity is withdrawn daily. (Great applause.)

The President: The address to which we have just listened has probably been the most valuable which has been delivered during the session. How we are to lessen the work in connection with our tests is a subject which has given us a great deal of thought. I am sure we are all convinced that the system of paying according to weight of butter-fat, instead of for weight of the milk, is the proper one. Over one hundred people have been brought before the courts during the past year for supplying adulterated milk to cheese factories. The Babcock test does away with such deceptions and the consequent prosecutions. It induces a man to keep a dairy cow, for every man is paid upon the sound basis of the value of the milk he supplies.

The Convention adjourned until 2 p.m.

## SECOND DAY.—AFTERNOON SESSION.

Upon resuming at 2 o'clock, Mr. W. G. Walton, of Hamilton, was called upon to read the following paper:

## HOW TO FIT UP A CREAMERY ECONOMICALLY FOR THE PRODUCTION OF BUTTER.

Before taking up the subject which I have been requested to deal with, a few general remarks would, I think, encourage some who falter in entering into butter-making and stock-raising, and I will try to comparatively show how easy and safe it is to commence butter-making now, to what it was a few years ago. It is no experiment now, but a fact which figures will prove.

To me it is very interesting to watch the growth of the butter-making and dairying of this country. It is only ten or twelve years ago that a few were groping about in the darkness searching for light; I was one of them. For four or five years previous to this I had been endeavoring to get at the new system of separating cream from milk by machinery. I had a fair knowledge of Danish and French butter-making, but could not get a separator until 1881. Two kinds were sent out to Montreal, and my friend, Mr. Sprague, and I were on hand for anything new. We both ordered our first separator before leaving that city in February, and in three weeks I had one running, which was the first ever run in Ontario, and perhaps in America.

I commenced at once to make butter and experiment in separating the milk and also the fat from the whey, etc. The Dominion agricultural agent at Hamilton, who was watching my movements, advised the Government to try and induce me to exhibit this Danish system at Toronto Exhibition. After some consideration I consented, the Dominion and Local Government each paying half of my expenses.

Immediately after I had visitors from all over the land, and no end of letters, all wanting information, and so much of my time was spent with visitors and correspondence that it became a burden to me. Meanwhile, I was endeavoring to have this experimenting done at Guelph or some other Government station, and they were so slow that I finally wrote them, if they did not take up this work I would refuse any more visitors to our creameries, as private enterprise could never afford to do this. I was glad I pursued this course, for immediately this work was taken up at Guelph, and many know the good work being done there. But I honestly believe if I had not pressed the matter at Guelph that it might still have been delayed many years. But I am so glad to see in these few years the rapid growth of this great work, and such gigantic possibilities before us in this vast Dominion for developing an industry so suitable to our climate. I hope before long that we, with our advantages, can make and place on the English market butter that will stand as high as our cheese does in the estimation of the world's greatest market.

At no time in the history of our Dominion was our work more required than at present, as grain-raising in Ontario has, I believe, gone below the possibilities of a profit, and so the country is ripe to take hold of this butter question, and I have had more enquiries this last few months for information on butter-making than for five or six years before, showing that the people are now ready for it.

And how remarkable it is that just at the present time we are about to have new fast lines of steamships owned and controlled by some of those large railway companies. With such competition in trans-Atlantic navigation, they can no doubt take our butter from Toronto or Montreal to Liverpool in about five days or a little more, and with the use of those immense refrigerators, our butter can be put on the English markets so as to equal, if not excel, the products of our Danish friends.

Fitting up a factory for the economical production of butter is the subject of my paper. To put this great thought into a few words is no easy matter. Fitting up a creamery is something like arranging the interior of a dwelling house, and is largely a matter of taste as to what one and another would consider the most convenient. But to my mind, many of our cheese factories should be so constructed as to make butter within an hour's notice. This, to me, is the key-note of cheap butter making. There are times of the year and certain conditions, localities, surroundings, etc , when butter would pay better than cheese, and the great object is to make the most out of the milk. But I do not mean by this that butter and cheese should be made out of the same milk, because I think you all know this should not be encouraged.

Again, I would not want it understood that in fitting up a butter factory it is necessary to arrange to make cheese, because many localities are so well adapted for butter-making and stock-raising that cheese-making would prove a mistake and a failure. I do not believe that any one plan for fitting up a creamery would work well in all localities ; yet I think I could give a system of plans that might be followed out successfully. But so few of our farmers are mechanics or understand profitable butter-making, that I am now going to ask this Association to introduce a scheme that seems to me the most needed of anything in our work at the present time. This is the appointing of a dairy engineer. His work and the work of our instructor might be done by the same man, so that anyone contemplating fitting up a creamery or butter factory could have the advice of this man as regards the most suitable buildings for that particular locality, and all details concerning the plant.

It seems folly for everyone starting butter-making to spend thousands of dollars in experimenting as I have done. In those early days there was no one in this country that could give information, so I had to experiment; but not so now, as we are willing to send an instructor to your very door, and all this time and money can be saved, by having this engineer and instructor to first see the site and general surroundings, such as level or rolling lands, large or small herds and whether scattered or not, or whether the cream-gathering or centrifugal system would be most suitable ; and he at a glance would be able to take in the whole situation and thereby instruct how to begin a business, which is so important.

I believe 90 per cent. of all failures in this line have been caused by starting wrong, such as putting up unsuitable buildings or plants and in unsuitable locations. All this

seems very plain to me, perhaps because my early life was spent engineering; but still I believe we have in our Mr. Mark Sprague, a man that would just fill the bill, if he could be induced to devote the time to this work. He is experienced, and would be economical so far as it would be practical, and has, I think, all the qualifications for this position. This would not cost so much extra, for we now have a man on the road the greater part of the season.

The Hon. John Dryden, our Minister of Agriculture, has said that if we could spend more money profitably he would give it, and I think that this is one way that it could be well spent. I know that the production of butter coupled with stock-raising would be most successful, provided that suitable buildings, machinery and appliances be used for each particular locality.

A great many people think that one plan could be adopted, or a simple short formula, for the economical production of butter; but, Mr. President and gentlemen, this cannot be done, for the varied conditions must all be taken into consideration to obtain the best result from the money invested, and at the same time keeping in view the importance of making the finest butter.

Mr. Walton supplemented his paper by discussing a perfect creamery which he had once visited. He also reiterated his suggestion made at the last convention, that the Provincial Government should furnish farmers with hand-separators at cost price.

Nothing resulted from a spirited discussion which followed these suggestions. It was pointed out that the question of the employment of a dairy engineer was a matter which properly came within the scope of the duties of the Board of Directors rather than of the Convention, and it was left with them to discuss.

## EXTENSION OF OUR CREAMERY BUSINESS.

Mr. R. J. Graham, of Belleville, followed with an excellent address on the above subject. He said:

In addressing myself to this subject, I feel my inability keenly, but will try in my humble way to point out wherein I think our creamery business could be profitably extended without interfering in any way with our present output of cheese, which has attained such a high reputation in the markets of Great Britain. You are all doubtless aware that our exports of cheese are far in excess to those of butter, and the reason for this can only be ascribed to the excellent quality of the one and the inferiority of the other. "Why is this thus?" to use an American phrase. Because we do not put the same skill in the manufacture of the butter that we do in the cheese, and further because we manufacture the greater part of our butter in private dairies instead of in co-operative factories, as the cheese business is done. It is not from an inferiority of our milk, grasses, atmosphere or any natural causes, for we have as fine a climate as any country in the world for the manufacture of good butter. If, then, our milk, food and climate are right, how may we extend this branch of our industry?

1st. Let us educate our people to the necessity of co-operation in the manufacture of this valuable and necessary commodity in the world's food requirements.

2nd. Let those creameries that are at present established and in operation be run on the best known system and with the best machinery, manufactured and operated by the best men in our country and instructed by the best man that money can obtain under the direction of the Ontario Creameries' Association and backed up by our Provincial and Dominion Governments.

3rd. Let us as farmers put more skill into our part of the business by keeping more and better cows, growing more and better corn, and building silos, that we may make the milk business a trade that will be in operation the year round, and not as it is at present, simply milking our cows during the summer season, perhaps six or seven months of the entire year, and allowing them "wind puddings and snowballs" for desert during the winter season. Let us feed these cattle the year round as though we meant to make the business pay, and keep our coarse grains at home on the farm and not sell it as we

do now at about two-thirds of a cent per pound, but let us put it through the cows and sell the product in butter at 25 cents per pound and take less than two per cent. from our farms that we would take if we sold the hay and grain.

Let the cheese factories combine in a section and from Nov. 1st to May 1st of each season make butter, and then fill out the balance of the year with cheese, and let our present established creameries send forward their butter fresh weekly to the English market in refrigerator cars to the seaport, and then let the Government subsidize a line of steamers to carry these goods in refrigerator space that we may place our goods on the British markets in the best possible condition and show the people over there that Canada can make as good butter as Denmark or any other country in the world. Denmark is smaller than the smallest Province of our Dominion, and yet she supplies England with $25,000,000 worth of butter yearly, while we send $1,000,000, and yet our exports this last season of butter to England was three times as much as formerly, and I am delighted to say our exports of butter since the organization of the Ontario Creameries' Association have increased yearly. The quality has been constantly improving under the able supervision of our present instructor; and I understand our best Canadian creamery butter sells quite equal to the choicest Danish. But with our present facilities for shipping we are handicapped in the summer, as the larger part of our creamery butter has to be kept in cold storage until the latter part of the season in order to get it to market in prime condition. But when Australia can ship butter frozen into the English markets I think it is high time our Government should see that we have at least refrigerator accommodation, and if they would subsidize a line for a few years till the business once got established, then there would be plenty of vessels built for the service that would not need protection or a subsidy of any kind. What we want is to keep our finest creamery butter fresh before the people of Great Britain the year round, get our customers there, and keep them well supplied all the time; but with our present system we can only hope to get a transient trade and cannot hold our customers, as we cannot supply the season through to advantage, and, until we can, let us pay particular attention to winter dairying when our shipping facilities are fairly good.

This can only be profitably done by using the silo and growing corn to fill it of a variety that will mature to the glazing state before frost season. Let us have our cows calve in the fall and raise our calves and pigs on the skim-milk while it can be fed to them sweet and in the best condition while they are young, and then when the cheese factory starts in the spring our calves will be in the best possible condition for utilizing the whey and tender grasses to the best advantage, thereby getting a rapid growth and the best results obtainable, and consequently yielding more profit. But let us avoid the private dairy; not that good or choice butter cannot be made in a private dairy, but because *it is not made* in them except in very few instances, and because our wives and daughters of the farms are overworked at the present time and are comparative slaves to drudgery. Let us help them in this business by saving them this drudgery at least, and by doing so we will not only lighten their labor but make our pocketbooks heavier. The table below gives a fair idea of the amount lost annually on butter made in private dairies. I do not say the following difference or loss occurs in *all* private dairies, but I do say it presents the average loss per pound in this Province:

| | |
|---|---|
| 100 lb. of milk will average at a separator creamery 4 lb. of butter, which will sell on an average 23c. | $0 92 |
| Value of sweet skim-milk for feeding calves or pigs | 0 20 |
| | $1 12 |
| Cost of making, 4c. per lb. | 0 16 |
| Net to the farmer per 100 lb. of milk | $0 96 |
| Equal to 24c. per lb. of butter. | |
| 100 lb. same milk, set in ordinary pans, will make on an average 3 lb. of butter, or with deep setting system properly taken care of, 3½ lb. of butter, which sells on an average for 16c. per lb. or | $0 55 |
| Value of skim milk, if not sour | 0 20 |
| | $0 76 |
| Value of labor at home at least 4c. per lb. | 0 14 |
| Net to farmer per 100 lb. of milk | $0 62 |
| A net loss of 34c. per 100 lb. of milk. | |

And, if set in ordinary pans and the skim milk fed sour, as is often the case, a loss of ½ lb. of butter and half the feeding value of the skim milk occurs, or 18c. per 100 lb. more, making a total loss of 52c. per 100 lb. of milk, or more than half wasted through this system of dairying. Then, if our farmers are fully awakened to this wholesale loss by making their butter at home and by sending to a creamery one season and comparing results they will find my statements correct. I am fully convinced that the dairying at home will soon "die a natural death" and co-operative creameries be established throughout our land. When our farmers are convinced that it pays to keep the cows milking the year round, and especially during the winter, and pays better than any other branch of their industry, then we shall see a revolution in our butter trade in Ontario, and our fair Province will then compare favorably with Denmark or any other country in the world for the production of good butter and lots of it. Then let this Creameries' Association of Ontario put forth every effort to see that the finest butter is made in our creameries and that it is put upon the market in the best possible condition, and show the farmers our "faith by our works" in this great industry. (Loud applause.)

## QUESTION DRAWER.

S. R. Brill: What do you consider to be the best mode of testing for a gathered cream factory?

Mr. Shutt: Undoubtedly the best way to ascertain the amount of fat in milk or cream is by the Babcock method. However, there often are difficulties in testing gathered cream by this process. This is owing to the clotting of the cream, which prevents a correct sample from being obtained. When the cream cannot be properly and fairly sampled, I would advise using the oil test churn. If the cream is perfectly fluid and shows no clot, the Babcock tester will be more accurate.

Mr. Hannah: I would like to ask Mr. Shutt if he has had any experience in testing cream in that way in connection with cream-gathering factories?

Mr. Shutt: No. I cannot speak from any lengthy experience in the matter of testing cream, but it can be done and is done satisfactorily, providing the cream is in fairly good condition. I believe the time will come when cream-gathering will be abolished, and it will be found more satisfactory to have the milk sent to the factory and separated by the separator, the patron receiving back the skimmed milk, because under the present system the cream is raised in all kinds of places, and by separating at the factory you will get a more uniform cream, from which you can make a more uniform quality of butter.

Mr. Hannah: I have tried to do this. We have been very anxious to introduce the Babcock in gathering factories, and it does not work at all.

Mr. Shutt: What have your difficulties been?

Mr. Hannah: The difficulty we have to get the cream in the factory in such a way that you can run it into the pipette.

Q (1) What is the best general purpose cow for a farmer to keep?

(2) What is the best cow to be kept on the farm since the general purpose cow is no cow at all according to Mr. Shutt's address of the forenoon?

Mr. Shutt: These two questions I beg to refer to Ex-Governor Hoard and Prof. Dean. These gentlemen are on the platform, and by the programme I notice that they are to address you on subjects that properly include an answer to the questions.

Q. What is the best separator to use in a butter factory?

Mr. Shutt: I have analyzed carefully the separated milk from four different separators—including the Laval and Alexandra—and found that there was very little difference between them in the amount of fat they contained. The variation was between one an two per cent.

Q. Does the milk of a cow show a difference in richness as a result of the food she gets?

Mr. SHUTT: Most probably. We have found that it does so. It is not necessarily so, but very often there is a difference in quality of milk of the same cows—owing to difference of feeding, of climate or of treatment. We often find there are great fluctuations of milk between two succeeding days.

Mr. MOYER: Did we not understand Prof. Robertson or Prof. Dean to say at our last convention that the food does not affect the quality of the milk?

Mr. SHUTT: That does not affect the question. There are other influences that affect the quality of the milk outside of the feeding.

Q. Is butter made from swee cream as good as that made from cream which has been ripened?

Mr. SHUTT: That is a matter of taste of course. What I like myself is a matter of no concern to any person else. I may say for myself that I like butter from ripened cream.

Mr. WENGER: One of my patrons from the Ayton creamery does most of the milking himself. He tells me that when he is from home he can at once tell the diminution of the milk. His children milk and the consequence is that the last milk, or strippings, is not taken from the cows. That shows that the milk varies according to treatment.

Prof. SAUNDERS: The point I understood Prof. Robertson to make last year was that you could carry this feeding idea too far—that all strong, nourishing food given in excess of what is required and can be properly digested by the cows passes away in the excreta and is lost.

## SOME CAUSES WHICH AFFECT MILK.

Ex-Governor HOARD, of Wisconsin, who arrived during the discussion, was invited by the President to address the Convention on the question under consideration. He said: A man may stand and argue questions concerning the wonderful mystery of the maternal functions in a cow, or in any of the mammalia, and he can ask questions from now to eternity. This question of the formation of milk is the greatest mystery to-day which confronts scientists. We have just begun to edge into the ocean a little, along the shore. We are like Newton, who when he came to die said, "He had only picked up a pebble of principle from the grand ocean which lay before him." Dr. Babcock and myself have worked along together for a number of years; and I know the average farmers often think that these scientists profess to know a confounded sight more than they do. Then, I know that the farmer himself often thinks he knows a confounded sight more than he does. (Laughter.) Now, you ask me the question, will the Babcock test show a difference in the fatty contents of milk one day as compared with another? My friends, I will tell you a little incident. I had a beautiful Jersey cow. This cow was very fond of me; would follow me around the pasture, and was as gentle and as loving as a woman—and that ought to be loving enough to satisfy any reasonable man. (Laughter.) I was at the time studying this question of the effect of the nervous system on the fat in milk. This was some years ago, before I brought out what is known as the "nervous theory," which contains a little truth and some error. I wanted to know just what effect the motions have upon the fat in the cow's milk. My wife had taught me some very important lessons. She was a mother that I could question concerning this mother that I could not question. I put this cow in the stall and commenced to milk her. When half through I stopped, took a sample of her milk and set it aside in a bottle, and then—God forgive me for the cruelty!—took a pin and gave this cow a rake with it across the udder. She started and looked around at me as if to say, "Who was it that did that?" I then quieted her as much as possible, and took another sample of that

milk. I then had the two samples of milk to analyze, one on each side of this piece of cruelty, and, my friends, the second sample showed a loss, in one moment, of fifteen per cent. of butter-fat. Now, you are not aware, nor am I, of the thousand and one things that cause fluctuation in the fat in milk. Remember that the fat is a sliding scale. The casein and the albumen and the sugar and the ash all stay there very nearly steadily, but the fat goes bobbling up and down. I have superintended the taking of over 30,000 tests, and I never saw a man take the test of a cow's milk twice alike in my life. The variation is not in the machine; it is in the milk. I have seen a Jersey cow which to-day would give me five per cent. milk—that is five pounds of fat in every one hundred pounds of her milk—and I have seen her to-morrow with no perceptible reason on earth why she should not give just as large a percentage, give me four and a-quarter per cent. milk. I have seen her another day spring up to five and a-quarter and five and a-half per cent. milk; and so vary up and down. Now herein constitutes the science of housing and caring for and handling a dairy cow. The man who handles for the best profit is the man who writes "comfort" right over the stable where the cow stands, and on his heart and brain and hands and everywhere writes this one thing, that the promotion of the comfort of this mother is the measure of the success of her profit so far as he is concerned. Such is his relationship to that cow. Then there is another word that he will write, "talent"—"capacity." That is the function of breed, and that is found in the cow herself. Now, you know good dairying is a combination. The Lord runs the cow; He makes the food; but He has not yet been able to produce as wise a dairyman as the cow or as the food deserves in very many cases. I said it once and I will say it again, that if the cow could talk she would be heard all over the land calling for an improved breed of dairymen. (Great laughter.) I have 360 patrons in five creameries in Wisconsin, and those 360 patrons are as familiar to me as every cow in my stables, and I study every one of these men's environments, and I go to their places and into their stables and am constantly striving to make myself intelligent concerning the causes and philosophy of their lives, because they represent the world of dairymen. Now, I have some men who are quick, keen and intelligent. A lot of mother was born in them, and they are successful. I have other men who are stupid, contrary, stubborn and the world has no hope for them except a funeral. (Laughter,) Now, you see, here is the world right before me. I go into the stable of Mr McPherson. Last year I think it was, I paid him $67 per cow in a herd of forty cows, for his share, and returned him his skimmed milk besides. I go into his stable, and see a brain in everything concerning the cow. In the first place, he has been wise enough to breed a cow. You ask me what breed you should keep for dairying? Phil. Sheridan did not have a general purpose horse to go the twenty miles to Cedar Creek Camp down the turnpike, but every stroke told of purpose behind his horse in the men who bred him for 200 years. He had all the purpose to carry Phil. Sheridan on that memorable ride which should decide his destiny in the American war. Now, every farmer to-day is astride of his destiny, and he needs a cow to day for his special purpose, and one that has got talent. He is not content to fool away his time, if he is a wise man, with a cow which will take just as much expense to keep her as a cow bred to the purpose of dairying, and give him only one-third as much in return. Mr. McPherson's cows—forty of them—averaged last year 352 pounds of butter per cow. Only a mile from him is an Irishman by the name of Fitzgerald. McPherson, is a Scotchman, originally, you know, they belonged to the same tribe. (Laughter.) This Irishman says, "Dang a cow anyway. (Laughter.) I paid him last year $32 apiece for their milk. Now, Mr. McPherson's forty cows give him $67 apiece in butter. I would have given him $12 apiece for the skimmed milk if he would have sold it. Add $12 to $67 and you have his earnings for last year. You have then $79 I think. Mr. Fitzgerald was paid for the butter from his cows $32. They cost him $30 to keep, so that he had $2 as a margin, and he says, "dang a cow." I have not consulted his cows as to what they say, (laughter,) but I think they would talk with stronger language if they had a chance. (Renewed laughter) Now, the same sky is above Mr. Fitzgerald as is above Mr. McPherson; the same earth is beneath him; he patronizes the same creamery and has the same fortune ahead of him. But how is it that his cows give him so much lower a return? Mr. McPher-

son is an intelligent reader ; Mr. Fitzgerald never studies, never reads, and thinks a cow .. cow and that is all there is about it. I have talked to him time after time and ave striven to stimulate his mind. I have said, "Mike, you have a good opportunity." He would say, "Oh to the divil wid a cow. Where is the man that makes a dang cint out av cows ? Show him to me. Pint him cut. Oh, he's a lyin'." Over the way is Mr. Westfault, who is a hard-headed old Dutchman, and things come slow to him, but they never get away from him. He can read the English language and speaks broken, and he drops into my office and talks. He is growing rich. He has been working up from a ten to a twenty-four cow dairy, and has been improving the quality and capacity of each cow, and to day that man's herd produces 324 pounds of butter per cow annually, and Mike's cows about 130 to 140 pounds of butter. Now, there is the same cost to house those cows and the same expense for hired man, but in Fitzgerald's case there is no barn in which to house that cow and no food to support the carcass. It takes the same dairy expense all round, but what a difference in the profit, the answer, the outcome. All these things belong to the gospel of good sense and good dairying. (Applause.)

## SOME DAIRY EXPERIMENTS OF 1892.

Prof. DEAN read an interesting and exhaustive paper on some of the dairy experiments conducted at the Ontario Agricultural College during 1892, covering the questions of feeding, milking and creaming, and threw a good deal of light upon the "Black Pepsin" affair. The facts given by the reader of the paper are published in the Annual Report of the Ontario Agricultural College. As might be expected, Prof. Dean's address drew forth a profitable discussion.

Mr. MOYER : Was there any difference in the quality of the butter, after being made, from the sour and the sweeet cream ?

Prof. DEAN : It would take an expert to tell the difference.

Mr. JOHN LOCKNER : I saw an article in the Montreal *Witness* favoring a certain churn. It was stated those who used it were sure they got a pound more of butter out of 100 pounds of cream than by the use of any other churn.

Prof. DEAN : I do not think there is any churn that will make a pound more of butter out of 100 pounds of milk than any other churn will.

Mr. BROWN : Have you made any experiments in regard to adding cold water to the cream ?

Prof. DEAN : No, sir ; we have not.

Prof. SAUNDERS : A number of experiments were made by Prof. Robertson last summer. The result of eighteen tests made between May and October led to the following conlcusions : When cold water was added a little more butter was obtained ; the butter was not so firm ; the time occupied in churning was longer ; that the longer time taken in churning bore no proportionate part to the amount added.

Mr. WENGER : I would like to know if there is any difference in the keeping qualities of centrifugal butter and of cream raised butter ?

Prof. DEAN : We have not made any experiments in that direction, but, talking with Mr. Brill on the way up, he seemed to think that butter would not keep so well from the separator. I think perhaps the difficulty is that the cream has not been ripened so well. I do not see any reason whatever why it should not keep as well. I should think it would keep better. With the cream-gathering system you have to contend with a great many people who set their milk carelessly. If the cream deteriorates in quality from such causes the butter must do so also of necessity. But when the milk is run through the separator the full quality is taken out of it.

Mr. BURGESS : What length of time does it take to ripen cream for churning ?

Prof. DEAN : That depends on the cream. If the milk is set sweet it will take on an average of twenty-four hours. In winter we have used the Boyd ripener, but in summer we do not use any starter. In winter we have used two per cent. of sour cream as a starter, because it ripens more uniformly and more quickly than is this is not used.

Mr. DONALD FLETCHER : There was a suggestion made here in regard to whether it was better for the farmer to raise the cream at his own place or send the milk to the factory to be separated. I would ask if the latter plan is giving better satisfaction than the other ?

Prof. DEAN : I think the question is, would it pay better to run a separator than to set the milk at home ? That depends on circumstances. If you have ice and have a good place to keep your milk, and your cows are fresh, so that you can send the cream to the factory in good condition, you would perhaps make as much money by setting the milk at home. But generally, I think, it would be better to send the milk to the factory to be separated. There are, of course, circumstances where it would be impossible to carry on a separator creamery. Supposing the patrons were ten or twelve miles apart, I do not think it would be possible to haul the sweet milk to the factory, separate it, and then draw back the skimmed milk again.

The PRESIDENT : If you had one central churning station, with a first class man in charge, and first-class machinery for manufacturing the finest butter, and had four or five separators, say, three miles apart all around this central churning station, you would do away with dragging the milk so far under the hot sun, and would do better work.

## MOUNT ELGIN DAIRY STATION.

Mr. T. J. DILLON, of the Dominion Experimental Dairy Station, Mount Elgin, being called upon by the President, said : I have been very busily engaged with the work in the creamery since my return from Prince Edward Island, and have had very little chance to read or prepare anything for a meeting of this kind, and will only try to give you a short account of the work done at Mount Elgin last winter and the present one. We got the old cheese factory there fitted up, and then commenced butter making on the 5th of December, 1891. From then to the end of the month we made 5,891 pounds of butter, taking an average of 21.38 pounds of milk to make a pound of butter. In January we made 2,390 pounds from 49,495 pounds of milk, averaging 20.70 pounds of milk to the pound of butter. The patrons understood that the milk would be paid for according to the butter-fat it contained, and if they wanted any cream they were at perfect liberty to take it off the milk before bringing it to the creamery. Very few of the patrons were in any way prepared for winter dairying, and we did not receive milk from a single fresh calved cow. The custom there has been to send the milk to the cheese factory till early in December, then make some butter for home use and have the cows go dry about the 1st of January. They were then fed on straw or roughage for two or three months or until it was necessary to begin better feeding to prepare them for the summer.

We ran on until the 9th of April. We separated that day and churned on the 11th. Cheese was made the same day in the same room, and the work kept going right along from year's end to year's end.

I went to Prince Edward Island to assist with the dairy work in that Province, and returned to Mount Elgin in time to resume butter-making operations on the 24th of November. Cheese had been made up to the 22nd. We did not get much milk the first week, as all the neighboring cheese factories were running. The factories there are much closer together than they are in this part of the country. We are receiving milk now from patrons who have been supplying milk to no less than eleven different cheese factories. Some of these factories continued running longer this fall than usual, in opposition to the creamery. I have asked why they did so, but have failed to get an answer from any except one man who said he wanted to put in a separator in his factory but could not do so. The Government, he said, was making the butter too cheap. He could not afford to put in the butter-making plant and make the butter for less than four cents per pound, and

he would run his cheese factory in opposition just as long as ever he could get milk. The charge for making at Mount Elgin is three cents per pound. Two of the neighboring cheese companies had double windows put on their factories and had them fixed so that they could be easily kept warm for winter cheese-making. After they closed, a few of their patrons brought their milk to the creamery. You see, Mr. President and gentlemen, some of the farmers were slow to take advantage of something that was intended for their special benefit.

Upon enquiring of one of those who had taken his milk to the cheese factory in preference to the creamery, I found he had done so under the impression that cheese was more profitable. He had never figured it, however, and I said to him "We will do so now. Each 100 pounds of milk which you have delivered to the cheese factory will yield eleven pounds of cheese, which would be worth ten cents per pound. After deducting one cent per pound for making and allowing five cents for the whey the value of your hundred pounds of milk is $1.04. The same milk delivered to the creamery would likely yield five pounds of butter, which should have a commercial value of twenty-three cents per pound. The three cents would pay for the making and leave you twenty cents per pound or one dollar per hundred, and the skimmed and butter-milk, which is worth twenty-five cents per hundred when hogs are selling at $6 and $7 per hundred alive, as they are doing this winter. This makes twenty-one cents on each hundred pounds of milk in favor of the butter." Yet there were many who might have had this advantage who were working against the creamery and what appears to me to be to their own interests. However, the number of patrons has increased and so has the make. The make last December was 10,945 pounds—nearly double what it was in the same month the first year. This, for manufacturing at three cents per pound, gives $328 35. Two tubs or packages cost $100, wages $71, fuel $30, leaving a balance of $127.35 to pay my salary, rent, and interest on capital invested. I do not think though that butter-making can be carried on by private enterprise for less than four cents per pound unless there is an uncommonly large supply of milk. We received 60,000 pounds of milk each of the last three weeks of December and worked by artificial light at both ends of the day, or we should not have had as good a showing for that month. The supply is keeping up well. We made 2,540 pounds of butter the first week of this month—considerably more than we had made during the whole month last winter, and took 19.81 pounds of milk to the pound of butter.

Some of the patrons who delivered milk only once a week, would put the warm milk in with the cold at each milking to keep it from freezing. If the farmers who are present go into winter dairying, which, I suppose, you will do, I would advise you to pay special attention to the care of your milk. If it is not taken care of in the producer's hands it is a very difficult matter to make fine butter or cheese out of it. Stir it well and keep it in a clean place. Some of our patrons have just left it in the stable, which is convenient, but has a very bad effect on the milk We took 1,000 pounds of milk from a patron last Monday morning which had been kept in a silo for four or five days Owing to the wet season the corn was very late in being planted and did not mature, so the ensilage was quite sour and the milk had absorbed the flavor.

The PRESIDENT: You would not want any starter for that. (Laughter.)

Mr. DILLON: The trouble was principally with new patrons, and when we called their attention to these things they did their best to remedy them. There is another experimental creamery in operation near Woodstock. Mr. Ruddick, who has charge of it, handed me a statement of his work from November 20th to December 31st. The butter made was 5,080 pounds. The pounds of milk required to make each pound of butter were 21.81. You will notice that it took a little more milk each pound of butter than at Mount Elgin. This is accounted for by the fact that 15 per cent. of the cows supplying milk to the Woodstock Creamery were fresh in milk while very few are at Mount Elgin. It is a very good thing, though, to have milk from some fresh calved cows, as it gives the butter a better flavor.

A VOICE: How long a time do you reckon a cow should go dry?

Mr. DILLON : Not more than six or eight weeks.

Same VOICE : Whether would it be better to let her go dry in summer or winter

Mr. DILLON : If you have the right kind of feed for winter it would be better to have her go dry in summer. For my part, I would rather milk cows in winter when there are no flies to bother.

The same VOICE : Of course she can feed herself in the summer, but in the winter we have to feed her.

Mr. DILLON : It might be more profitable for you to feed and milk her in winter, as the Danes do. In 1891 the little country of Denmark supplied to the English markets nearly $24,000,000 worth of butter at an average price of 24 cents per pound. The bulk of it was made in the winter season when it was high in price. The butter exported from Canada the same year only realized 18½ cents per pound. The Danes exported also to England $6,240,000 worth of pork, for which they realized an average price of 12 cents per pound, while Canadian sold for 8¼. Of course the Danes study the market and try to supply it with the kind of butter and pork it requires, or they would not be able to realize such prices.

The PRESIDENT : The Danes are content to buy food for their cattle in the British market, pay freight on it, and feed it to their cows and turn it into the finished product and return it again to the British market in the shape of butter and pork. You have by winter dairying an opportunity to feed the raw material grown at home, save the fertility of your soil and get the benefit of selling your butter when the price is high.

## DAIRY EXPERIMENTS AT OTTAWA.

Prof. SAUNDERS, was next called upon and came forward amid applause. He said : As most of you are aware, Prof. Robertson was advertised to be present at this meeting and give you a talk on the requirements of the British market in regard to butter. He intended to have sailed on the 28th of December and to be present at this meeting, but we learned from a cable yesterday that he had but just completed his work and was then sailing for home. His object in going to England at this particular time was to endeavor to open the way for a very much larger trade in Canadian butter, and, if possible, create an impression in favor of Canadian cheese. English people, as a rule, are rather set in their opinions. In an address recently given in England by Prof. Robertson, he remarked that when he was a young man he thought that perhaps he could do something to educate the tastes of the English people, but soon concluded to hand that over to some one who had a century of leisure on his hands. (Laughter.) In a recent letter he remarked that he was in hopes of selling a large lot of cheese which had been made at the experimental dairy stations during the summer at a price higher than any yet realized for Canadian make, and from a cable message he received subsequently we learn that he has succeeded in realizing his expectations. I think at present we supply England with only about 2 per cent. of the butter she imports. We have a magnificent country in many parts for butter-making. Our climate gives us great advantages in this respect; our people are enterprising and industrious and there is no reason why we should not greatly increase the output of Canadian butter in a very short time. The Danes, who occupy but a small country have built up their butter trade to a marvellous extent within the last ten or twelve years. The sales of Canadian cheese in Great Britain last year were in value over $2,000,000 more than any previous year, and has become the heaviest item of all our exports, and Ontario of course is contributing a very large share of this grand total. This gigantic trade has been built up within a very few years by the energy and enterprise of our people. Farmers and dairymen have never before had the advantages they now have in the way of education. Farmers' institutes, dairy and other conventions are all of comparatively recent growth, and our farmers are making good use of these and means of obtaining information and are doing a good deal of thinking for themselves,

which augurs well for the future. The many experimental farms and stations now established on the American continent are working out the more difficult problems in connection with agriculture and disseminating information through the press; also in bulletins and reports, so that the farmer is able to get the information he needs to carry on his business in the most successful way without much cost to himself. There are many of these experiments which occupy much time and cost a good deal of money to make out satisfactorily. I will now give you the results of a few of the experiments which have recently been carried on at the Central Experimental Farm at Ottawa, under the direction of Prof. Robertson, some of which confirm the results of the experiments which Prof. Dean has given you.

First of all with reference to experiments in setting milk: It was found that in setting in deep pails in ice water for 11 hours and 22 hours, there was an additional loss of 9 per cent. of butter-fat from skimming at 11 hours. In experiments of setting at different temperatures, viz: 98, 88 and 78 degrees, the milk being afterwards cooled in each case to 49 degrees, it was found that there was no perceptible difference in the quality of butter-fat obtained, showing that it is immaterial whether the milk is set at a temperature of 98 degrees or 78 degrees, providing it is plunged at once into cold water and reduced to a temperature of 50 degrees. Experiments were also made with milk of cows at different periods of lactation. The cows were classed in three different groups: those which had been milking from 8 to 11 months being kept in one group; those which had been milking for periods ranging from 5 to 7 months in another; and those which had been milking from 1 to 3 months made up a third group. It was found that the cream was more difficult to separate which came from the cows which had been longest milking. In the first instance there was a loss of 31 per cent. retained in the skim milk. In the case of milk from the second group of cows, when set in the same way, the loss was over 27 per cent., while in the milk of those which had been milking for the shorter period in the third group the cream separated much more readily, and the loss was reduced to about 16 per cent.; the result given in each case is the average obtained from 24 to 30 settings. In every case where the milk was put through the seperator the butter-fat was almost entirely separated, no matter how long the period the cow had been milking. When a wider can than the ordinary shot-gun can was used—one 15 inches in diameter —there was a further loss of 7 per cent. of fat left in the milk. In an average of 12 tests of immediate settings, as compared with settings delayed one hour, there was an additional loss of 16 per cent. of fat from delayed setting. With shallow pans the results obtained were very much better. Those obtained from the milk of cows that had been milking from 8 to 11 months were nearly as good as those obtained in the use of short gun cans with milk of cows that had been milking from one to three months, showing that the rapid cooling of the milk of cows of a longer period of lactation favored the separation of the butter-fat.

In an average of 8 tests it was found that when the milk of one fresh calved cow was added to that from eight cows which had been milking for periods exceeding seven months, the loss from butter-fat remaining in the skim milk was reduced to about one-half.

Forty-two tests were made to ascertain the best temperature for churning sweet cream, and it was found that when the churning was started at a temperature of 50 degrees or under the butter-fat remaining in the butter-milk need not exceed $\frac{1}{4}$ of 1 per cent.; that for the efficient recovery of butter-fat the cream should not be above 50 degrees when the churning is started, and the churn, if a revolving one, should not be filled to more than one-quarter of its actual holding capacity. The cream was cooled down from 50° and tested at 47°, 46° and 45° and the temperature lowered until it got below 40°, and it was found that there was practically no difference in the handling of it below 50°; but that when the temperature was above 50° the proportion of butter-fat left in the milk was much larger, and that it increased considerably as the higher teperatures were reached. Experiments have also been carried on to ascertain the result of mixing water with cream before churning. Eighteen tests were made at different periods, from May 6th to October 1st, and the following conclusions reached: That when water was added a little less butter was obtained; that the butter was not so solid or firm in

the grain; and that the churning period at the same temperature was longer by from one to thirty minutes; and that this additional time required for churning bore no definite relation to the proportion of water which had been added.

Experiments are being continued with milk obtained in every month of the year, as to its creaming in the deep setting or the shallow cans, and they confirm very strongly the opinions that have already been presented in favor of the use of the separator. Last year, at Ottawa, in order to determine some important points in connection with the feeding of cows, there were made over 15,000 tests with the Babcock milk tester to determine the proportion of butter-fat in the milk. It was found that certain cows would give 4½ per cent. of butter-fat one day, and the next day would drop to 4 per cent. or less without any change of food or other apparent cause for the difference. These individual peculiarities in the animal, farmers cannot study too much. There is no hard and fast rule which can be laid down in regard to the feeding or the keeping of cows, but by watchfulness and care every farmer can determine for himself which of his animals pays him best, and by retaining the best only he can add materially to his profits. Now, in addition to this care of selecting, if the use of corn ensilage be adopted very much can be done to make the keeping of stock in the winter time a paying business, not only in feeding cows for the production of milk, but also in feeding cattle for beef. Under Prof. Robertson's supervision experiments have been carried on at Ottawa for the past two years in this direction, and we find that both cows and steers can be kept very much cheaper, and that they will do better, on such succulent food than on the drier mixtures of hay, straw and roots. I think it is a wise policy for our Governments to do all they can to help the farmers, because agriculture lies at the foundation of the prosperity of this country, and the more we can help the farmer the more will the merchant, the professional man, and the community generally be benefitted. It is in the soil that we have the greatest treasure in this country, and by proper attention we can retain its fertility for an indefinite time. (Applause)

The Convention adjourned until 8 o'clock.

## SECOND DAY—EVENING SESSION.

On resuming at 8 o'clock, Mayor Henry was called upon to preside over the meeting which crowded the hall to the doors.

## THE ONTARIO GOVERNMENT AND THE DAIRY INDUSTRY.

Hon. John Dryden, Minister of Agriculture, on coming forward was received with applause. After complimenting the committee on the excellent music which had been provided to add interest to the meeting, Mr. Dryden said: "I do not know, Mr. Mayor, whether you were here this afternoon when Mr. Moyer was reading that excellent paper on the right sort of butter to make for our Canadian market. He said the time had come when we had no use for a general purpose cow, and I was not inclined to disagree with him. But he went further and said neither have we any use for a general purpose man. This I was forced to apply to myself. You know I have, as Minister of Agriculture, to take an interest in the Bee Keepers' Association, the Sheep Breeders' Association, the Swine Breeders' Association, the Cattle Breeders' Association, and the Cheesemakers' and Creameries' Associations, and all the rest of them, and if I am not a general purpose man I do not know where you will find one. (Laughter) Besides that, I am general-purpose in another way: I do not ordinarily find that at any of these conventions I have any set subject to speak upon, but am expected to speak about anything and everything, which is apt to result in saying nothing. On this occasion, however, I am glad to see that I have been put down on the programme for a definite subject. I am to talk to you to-night on what the Ontario Government is doing for the dairy industry in this province. Now, when I began to think of the subject I felt a little embarrassed, because I considered that I was likely to be suspected of praising myself to some extent,

and that I must remember the advice in the good book to 'Let others praise you.' But then you will recognize that I am here as representing the Legislature. It is the Legislature which makes the grant which enables you to carry on this great work. We have some of the members of the Legislature here, and one of them to my right (Mr. Gibson) whom I have learned to respect very much; and I know that when I speak of what the Government is doing you will understand that I mean, after all, what the Legislature of the province agrees to do. (Hear, hear.)

In this day we see organizations on all sides. Men of every calling are joining together to advance their common interest. Our agriculturists have been the last to come together, but they too are learning fast that mutual benefit is always the result of associated effort. I presume one cannot see the results of organized effort better exemplified anywhere than in connection with the dairy industry of this the banner Province of the Dominion, and when I speak of the dairy industry, I refer now more particularly to cheese, for we have made great advances in the production of cheese, while the annual production of butter has gone down, down, down. Now, why is this? I will tell you. Because twenty-five years ago we had organization among the cheesemakers. Ever since that time they have been a living organization, and if the buttermakers had combined in the same way I doubt not but we should have seen the same results; but this Creamery Association has only been in existence some six or seven years.

Now, what I want to ask is, could these associations have carried on this work if the Government had not guaranteed the necessary funds? Why, if you had started without the backing of the Government grants I am afraid that your organization would have been still-born, and long ago you would have been called upon to engage in a funeral ceremony. So the first thing I want to point out as being done by the Ontario Government is the aid they have given to these various associations. What, I ask, is the object of this aid? Is it that one or two hundred of you may meet together from year to year and discuss such subjects, for your own benefit merely, as are brought forward? That is not the object at all. It is that we may convey to the people the information which you have acquired in order that they may be induced to engage in this industry and achieve the best results. To this end you bring to these conventions the very best men, both practical and scientific, from all points of the compass and at great expense, so that they may contribute of their experience and information, not only to those who are gathered in this meeting, but that through the official reports, this information may be carried to thousands of others who are not here at all. But these gatherings do more than convey information; they arouse enthusiasm. You meet here and discuss subjects of vital interest to those engaged in dairying. You cannot do that without inspiring enthusiasm. The man who attends the convention will go back a stronger and a better dairyman than he was before, and when he gets home he will convey the information he has gained to others. The enthusiasm of this meeting is, so to speak, catching. (Hear, hear.)

Then another thing you have given to you here is the Dairy Report. This is the report, not merely of this Association, but of the two sister Associations—the three Dairy Associations of this province. I want to endorse what your President has said regarding the value of this report. It is full of meat along this line. I do not believe the dairymen themselves who regularly attend these meetings know really the value of this report. They know all about these things which are discussed, and perhaps do not know how valuable it is to the man who is eager and anxious to obtain information. It is not valued in this country merely, but in the old land as well. You do not know, perhaps, that editors and authors who are required to write for old country journals use it to write up their articles. Now, if you will bear with me just for a moment I will read you what has been taken from one of those papers. I have here an extract taken from the London, Eng., *Field*:

"We have never concealed the opinion that the agricultural literature (which comes from beyond the Atlantic) interests us more than that produced at home. The subject is the same but the method of attack is different. The speakers, or writers, put themselves into their work more than the Britisher does. We do not mean their indi-

viduality, but their experience. In Great Britain a very large proportion of agricultural writing and speaking has been 'got up.' On the other side of the big water those who write and speak on the subject have been 'got up' by it. There is a ring of reality about their stories which tells of actual experience—limited very likely, and a one-sided version—which is the very best teacher of them all.

"When the Legislative Assembly of Ontario gave the order to print this big pamphlet, which contains (1) a full report of what took place at the Fifteenth Annual Convention of the Eastern Dairymen's Association of Ontario; (2) a similar report of the Fifteenth Annual for Western Ontario; and (3) the same for the Seventh Annual Convention of the Creameries' Association for the Province of Ontario, they made an uncommonly good investment of a portion of the public money. Fresher, fuller, more genuine reports we never saw. To read any one report of the three, from the President's address to the final discussion which ensued after the last paper, and compare it with any account of any annual meeting of any agricultural association in Great Britain is like going out of an English corn market into Mme. Tussaud's gallery. Their business is all alive; ours is too apt to be a number of well-dressed puppets, who are so grouped as to appear to a careless observer to be 'the real thing.'"

Now, that is the opinion of some of the people of the old land as to the value of these reports. So that the second thing I want to emphasise is that the Government are printing and distributing these reports broadcast throughout the land. I think that is important. To print these reports without bringing them within the reach of the people would be a waste of public money. This consideration led me, two years ago, after I became Minister of Agriculture, to propose that not only those who became members of the Dairy Associations, but those who are members of the Farmers' Institutes should be supplied with copies of these reports. There are people all over the country who never go to a convention at all, and who are not reached by the regular parliamentary distribution of such reports. We want to educate them; and how can we do it better than by putting this great report into their hands? So I sent out a circular to the officers of Farmers' Institutes stating that those who became members would be supplied with the reports as well as the bulletins issued by the Department. Do you not recognize how in this way the influence of these meetings is multiplied a hundred times? You do not reach merely the 200 people who are gathered here, but we send out the reports of your discussions to perhaps 15,000 homes, scattered in every county of this Province, and, as the President says, after the day's work is done the parents will sit down and discuss this report with the children and assimilate it and put it into practice. So no one can say it is a trivial thing. It is an important work. (Applause.)

The third thing that I present as being done by the Government is the organization and work of the Travelling Dairy School. Some of the gentlemen here know the opposition I had to meet when I undertook this task. These gentlemen were afraid to have sent around a school which would teach people how to make butter in their own homes, because they feared it would result in destroying the creameries. The President knows that if I had believed that would be the result I would never have undertaken it. I never believed it; I do not believe it now; but I believe it will have just the opposite result. Now, primarily, this dairy school was started with the view of teaching the farmers how to make better dairy butter, but of course we could not do that without calling attention to dairying generally—without teaching farmers how to keep their cattle better, how to handle and how to care for them. Now, what is the result? I heard the instructor say to-day that we had established 21 new creameries during the past year. Before we had 35. This dairy school has been in operation only two years. We have nearly doubled the number of creameries this year. Therefore I say, if this is the way in which this work is going to hinder the establishment of creameries let us have a little more of it. I say there never was a time when the farmers took so deep an interest in the dairy business, and I want to take to myself some credit for helping to arouse this interest. Now, when we have taught a man or a woman how to make better butter we have just brought them to the place where they will say, "cannot we take the next step and go into this co-operative system?" That is

exactly what will happen, and in two years you will not have 21 new creameries established in one season, but 42.

Then, the next thing which the Government has done is the establishment of a dairy course at the Ontario Agricultural College. That work was formerly under the charge of Prof. Robertson. Now, it is under the care of Prof. Dean, an old student under Prof. Robertson, who is no discredit, I apprehend, to his teacher, and who is doing good work, as I happen to know, and whom you are all glad to meet at these conventions. (Hear, hear.) This training, as all will see, can only be given to the younger men, and does not reach those who are at the present time actively engaged in dairying. If we would reach this class also, it is necessary to do more than provide the regular dairy course at the College, and so we conceived the idea of establishing a special dairy course in connection with the Agricultural College. This I intend to last two months, beginning with February and lasting until the end of March. We propose to make this the best school of the kind on this continent. (Hear, hear.) We propose to move right up alongside of Wisconsin and go a little beyond it. I know my friend here from Wisconsin (ex-Governor Hoard) will endorse this action, because we are all working for one object, and there is no reason why we should not have a healthy rivalry in a matter of this kind. We are going to put the best men in charge and spare no pains to make the school rank among the best. We propose to give those who go to that school both technical and practical instruction. Now, some of the people to whom I talk are of the opinion that we are bothered a good deal with useless scientific education, and that it is enough to teach merely the practical part; but I am sure you will all agree that a practical man would be all the better equipped and would be better able to correct mistakes when they occur if he had also this scientific training. Those who go to this dairy school may be ladies or gentlemen. Whether they have ever gone to a high school or not makes no difference. We propose to give them practical lessons, but we propose also to give them, right alongside of those lessons, technical and scientific instruction. I knew there was some demand for such a special course, because I found our young men going to Wisconsin as soon as the dairy school was opened there a couple of years ago. I was ashamed that this, the banner province of the Dominion—this rich Province where we had numerous schools and colleges for the education of professional and business men—had not a place to furnish instruction in dairying. I thought that ought not to be so any longer. In deciding to establish such a school, I was a little afraid that we might not be able to fill it. I said, "If we get fifty or even twenty-five people to attend it the first season I shall be delighted." What was my astonishment, then, to find that two months before the school was to start we had eighty applications for the fifty chairs. (Applause.) While I am glad that we have established this school, and can give this assistance to some of the applicants, I regret very much that we have to turn so many away, and I know that if the demand continues we must provide the necessary means to give this instruction to those who are seeking it.

Perhaps you would be interested in knowing what all this work which we are doing costs. I have spoken of the aid to the Dairy Associations. This costs, say, $6,000 a year. The Travelling Dairy has cost $5,500 annually. The maintenance of the Dairy department at Guelph, say, $5,000. The printing and distributing of the Reports of these Dairy Associations and of bulletins issued by the Department in reference to dairying, say, $3,500 more. These, added together, make $20,000 annually to develop the dairy industries of this Province, and I want to point out that in all these matters we have the same objects in view—increased education. The aid to these Associations, the Travelling Dairy, the Dairy department, and the publication and distribution of reports and bulletins are all intended to be educative. There are some things which, I think, the Government ought to do, and there are some things which they ought not to do. I think the legitimate functions of the Government are somewhat limited in this direction. For instance, a man came to me the other day and said, "Would you accept this idea, that when a number of men agreed to start a creamery the Government would supplement the money put into it?" If we did this, the next thing would be that when a man put up a bank barn he would be asking the Government to help him. (Laughter.) This is a democratic country, and I hope the day will never come when the people will

learn to depend upon the Government for everything. We want to develop a little enterprise among the people. In order to enable them to acquire the best information available, the Government are spending money liberally in the various ways which I have indicated, and I have no doubt at all but the people accept the education thus afforded and carry it into practice.

I have heard since I came here that this is the greatest township and the greatest county in the province. I do not want to say one word to cause you to think anything different. I would like you to go home and believe that this is the best township and the best county in Canada. But I want to tell you that, after all, this township is just a fair average sample of what all the best are, so that you who do not go about very often, as I do, may have some idea of what the people are in this banner province. I am certain, therefore, if you provide them with educational facilities they will lay hold of and take advantage of it.

Does it pay to furnish this education by the Government? Yes, five hundredfold. We spend $20,000 annually, and we get a return which I do not feel we ever would get if this work had not been taken hold of by the Government. Twenty years ago our export of cheese only amounted to $1,000,000, and now it has reached $12,000,000. In the same period our butter export has fallen off from $3,650,000 to $602,000 in 1891. While our cheese exports have increased eleven or twelvefold, the reverse has been the case with our butter, because the money was not sent in the direction of creating an interest in butter-making. I say, therefore, it pays to spend this money. But we have only begun to reach the position we may attain in this matter. What more may we be expected to do in the future? Take the little country of Denmark, which has a population of 2,186,159 as against a population in this province of 2,112,989. The acreage in Denmark is 14,000,000, while we have in the province of Ontario an assessed area of 22,500,000 acres. Now, Denmark sent to Great Britain in 1890 92,370,000 lb. of butter. How much did we send, with a greater area, and better people and about the same population? How much do you think? I cannot tell you how much we sent from Ontario, but from all Canada we sent 1,700,000 lb. While Denmark got about 24 cents per lb. for what she sold to Great Britain, we had about one-third less, or an average of 18 cents per lb. That is too bad. But, you say, is there room in Great Britain for more butter from Ontario? I answer there is lots of room. Besides the 225,000,000 lb. of cheese which Great Britain takes every year, she receives 220,000,000 lb. of butter, and in addition 120,000,000 lb. of oleomargarine gets in there which, I think, ought to be replaced by Canadian butter. There is room in that country for our butter, and instead of sending 1,700,000 lb. we ought to send 20,000,000 lb. Instead of getting $500,000 for it, we ought to get $5,000,000. I maintain that we could send that extra amount. But, you say, the Danes are near by, and we are 4,000 miles away. Well, there is another country, Australia, which is two or three times further away from Great Britain than we are, and in 1891 Australia sent to Britain 4,792,000 lb. of butter. Four years ago they had only six creameries and now they have 360. We must wake up in this matter if we are to keep pace with Australia. I want to emphasize that point I spoke of a little while ago about squeezing out this oleomargarine. How are we going to do this? By two things. First, by producing a better quality of butter. That is the only way we can get into that market. We want quality first, and then quantity. How are we going to get this better quality? Just by two things—education and co-operation. Now the Government are going to give you the education, but we depend on the people themselves to give us the co-operation. I believe our people will do it. I believe the influences at work in this province to-day are bringing it about faster than we have any idea of. Go down to my own county. Within the last twelve months I can count eight different places where the farmers have called meetings and discussed the propriety of establishing cheese factories or creameries.

This is but a sample of what is taking place in other sections. With this increasing interest, this industry is sure to advance year by year as time goes on. The second thing we want is better shipping facilities. This I assume to be an essential thing. You can make the very best article, but unless you have the facilities of conveying it to its destination in proper condition your work is lost. Here my duty stops. We shall have

to depend upon the integrity and wisdom of the Dominion Government to see that every provision is made in this respect. I believe they understand their duty and will take action, but if they do not you will be obliged to compel them. Now, it is to this end—it is to accomplish this result—that the Government grant the aid they do to the dairy interest in this province, and I believe this industry is of sufficient importance to bring from this Government, or from any men who occupy their position, all the aid that is required. (Hear, hear.)

I want to say one thing more before closing. It is a very delicate matter. I heard something about the speech of my friend with reference to the little bit of friction that exists between the Western Dairy Association and the Creameries' Association. The President knows very well that I tried my best to arrange this matter. There is no warfare between the objects of these two Associations. There cannot be any warfare between them, and in fact the cheesemen and buttermen are getting closer together every year and every month of the year, and by-and-bye we shall have them overlapping each other's work—the cheesemen making butter and butter-makers learning to make cheese; and when this is being accomplished all over the country, there should be a joining together of the two, and when that time comes, and when the iron is hot, I would like to weld them together. Then we would have one grand Dairymen's Association. I do not want the people to run away with the idea that if I am Minister of Agriculture when that time comes, I would be niggardly enough to say we would be in a position to cut down your grant. I would give you a little more rather than a little less, because I believe it could be used to better advantage. Nearly all these men are interested in both butter and cheese, and the farmers are equally interested in the development of both industries. In some places the people are interested in butter; in some places the interest is in cheese; and in some places it is in both. Do not let us quarrel about it, but let us unite to help to develop the resources of this banner province. (Great applause.)

The President paid a compliment to the Mayor and people of Harriston for the interest they had manifested in the Convention, and pointed out the nature of the encouragement given the Association by the Minister of Agriculture. He then went on to say: Only eight short years have we been in existence, and just think of the great educational influence we have had and the results of our efforts in building up the butter industry! Last year we sent to Great Britain twice the amount of butter we have done in any single year before, and I am satisfied with the influences at work now we will be able to make a still greater advance in the coming year than ever. Once more I thank the Government of Ontario for the interest they have taken in our efforts. The 21 creameries started this year, all had to be furnished with education in order to make them successful. We had to do this as well as furnish instruction at those already established as to the best way to run their machinery and manufacture their butter. Next year with larger work to do, we will have to make greater efforts and put on more men to do the work of instructing. I regret to say that this year we have run behind financially. The grant we got from the Government and the money for membership in this Association has not been sufficient to meet our expenses, and we are going to have a deficit this year. I therefore hope that those who would like to become members of the Association will see our secretary and give him their names and pay their membership fee of one dollar.

## EVIDENCES OF SUCCESS IN WISCONSIN.

Hon. W. D. Hoard was again introduced and said: I am in a very poor condition to talk. I have not had such a cold since the time when I was a soldier and marched into a forty acre field and somebody left the bars down. (Laughter.) I am in no shape whatever to talk to you, or to in any sense justify the magnificent audience or the attention which you ought to give to a speaker to-night. I have been very much interested in looking over this audience, studying the faces of those different men and women, and in noting the verve and consanguinity that pervades an audience here and in my own state. You know there is a singleness of purpose about this one great pursuit of dairying. In

all these mysteries and problems they are the same here as there with us to-day, to-morrow and forever. We have got the same need, and that is one of the great helps. In Wisconsin we have a composite population and we have all the languages spoken on the Tower of Babel, and yet after all we have a class of people in our foreign element who are beginning to take hold of this business. I am going to relate to you a little story in my history. I have been a teacher and a student and a learner along these lines for 30 years. I have had a little to do with imparting knowledge in the west and in the United States generally, and I have seen these humble beginnings reaching out into the humble farm homes; and I want to say to your Minister of Agriculture and to your Creameries' Association that everything else is naught and worse than naught if it does not reach out into the humblest farm home. The world waits for him to-day who produces the milk. All these appliances of these creameries, these separators and triumphs of an inventive genius are as naught until the farmer begins to put himself into these lines of progressive thought. When he does the procession moves. In my own county, about 20 per cent. of the population is German, and, as a consequence, one have in them all that belongs to that solid, substantial nationality. One day, about 17 years ago, a little German, about 5 feet 6 inches in height, walked into my office and sat down very respectfully in a chair near me and looked at me. I knew him, and said: "Good morning, Carl." "Good morning," he said. I saw that he seemed sort of down-cast. He said: "I vants to speak mit you. I heard you speak in the school-house about the butter business. I got mine dairy-house, mine house and frau and six children and somedimes I tinks I got too many of them (laughter), and I got my mortgage (renewed laughter), and I work, and work, and work, and I work night and day and I cannot make that mortgage go away; and I hear you speak about the butter business, and I want to talk mit you. I got no money. I make a little butter. I take dot butter to town and Mr. White, he look on dot butter and smell it. He says, 'Dot butter got more stinks as anything else.' (Laughter.) What can I do, my friend?" There is an air of humor and grotesqueness about this talk; but, do you know, that it touched my heart—the simple and plaintive tale of that simple and untutored and unenlightened man. Instantly all my native blood came to my heart, and I said to myself: "If I am going to do anything for that man I must go right down to his place and show him what to do." I said to him: "Do you know what the Bible says—in Proverbs 1-2—'As a man thinketh so is he.' The difficulty is you have not been doing the right kind of thinking." "Vell, mine Gott," he says, "I thinks myself almost to death." "Yes," I replied, "but you are beating like a bird against the wires of a cage, and you are beating vainly and you can beat your wings to pieces." It was all Greek to him. I said: "You have been making butter; you have told me about it." The man smokes, and he was subjecting his cream to the smoke and to the smell of boiling cabbage and all the other smells. I said to him: "If there ever was a refuge on earth for a stink it is cream, and the result is you cannot make good butter; and, Carl, fine butter is the product of fine efforts always." Then I said: "You are selling your butter in this cross-roads butter market. Would you take goose feathers to a cast-iron market?" "No." "You are not making nor selling your butter with good sense, and everything you are doing is at variance with good sense. Now," I said, "you can go down town and buy two kerosene barrels." "Yah," he says, "but they got more stink yet than dot butter." (Laughter). I said: "You can stuff those barrels with straw and burn them out. You have got a good well and a wind-mill, and you can make up a little house around the rock of the wind-mill. You can set these two barrels in as tanks. You can go to the tinsmith and get two or three shot-gun cans. Then you can set them into the barrels and let the old pump run and keep pumping the water into the barrels. I guess the wheel will stand it; it will do it good. Then I want you to get a cream-can and put all the cream into it until you have got about 80 lb. of cream, and keep it in that water just as cold as you can, and then I will come down and make this butter and send it to Chicago, and we will 'stand still and see the salvation of the Lord.'" So I did this; and the wife said to Carl: "Carl, dot Yankee is a humbug;" and Carl says: "No, no I tink not; the Yankee is not a humbug, I will see." So when he had got his cream ready I went down to his house, and I don't know that I ever went on a happier journey in my life. I churned the butter and showed him

how to make it, and I said: "That butter is the result of some of the best judgment to-day." Then I packed it. "Carl," I said, "I am going to send it to Chicago and sell it in a butter market." "Will you go with the butter yourself?" he asked. "No, I will send it to Chicago." "Gott in Hemil, I will never see it again." "Oh, yes you will." Man's intelligence is analagous to the great world of commerce, which goes on credit; and trust and reliance are at the bottom of the whole world's transactions. "Now," I said, "we will sell this butter as intelligent men and as men dealing with men who know good from evil." (Laughter.) He said: "You speak a great deal from the Bible." The Bible is a mighty good book to talk from on butter. There is not a word about "oleo." (Laughter). Butter was selling in the stores in our town at 14 cents at the time of which I speak. I sent Carl's butter 111 miles to Chicago to a commission man to whom I said: "This is the first fruits of righteousness on the part of a little German friend of mine (laughter); take this butter, sell it on its merits and send me the sales' account and your cheque." In about two or three days these came—"Sold for 26 cents." I went down with that cheque with a mind filled with conflicting emotions, and I knew that Carl's mind was filled with thoughts about this butter. I handed him the sales' accounts and explained to him: "This little package of butter has sold in Chicago at 26 cents, and here is your money." The man gave a start, the moisture came into his eyes, he saw for the first time in his life; the certain way appeared before him; there was a reason for his labor in front of him, and he seized the cheque and caught his wife around the waist, waltzing down the floor with one arm around her, saying: "Louzetta, Louzetta, mine Gott, dot is no humbug." (Laughter). The wonderful poet Gray in that most wonderful of elegies deals with "the simple annals of the poor," and, my friends, we cannot get away from them. The spirit of this lay should be the permeating spirit of every just and true dairyman on earth. The result of my experience with Carl was that he went on with this work. He asked me to assist him. I said: "Carl, you must educate those boys; send them to the district school; educate them and get behind them." Now, this was about 14 years ago. To-day Carl has a farm of 250 acres of land, a dairy of 70 cows and is worth $25,000. Occasionally he sends me a package of butter and a note, which says: "To my good friend who taught me how." You may speak of official honors. I would rather be the arbiter of Carl's fate than Governor of Wisconsin a hundred times over. (Great applause). There was to me a stamp and growth of civilization I longed to see among these people, and I have watched it spread and spread until to day I see transformed into fertility broad acres—a country where the farmers were selling out fertility by the bushel—the stupidest piece of business this side of the grave—growing grain for sale. Why, between the horse that draws the plow and the man who holds it at the other end, so far as the use of intelligence is concerned, very often the odds is with the horse. (Laughter). I saw that country reduced so that in 1870, it would not produce eight bushels of wheat to the acre. It was taken from the hand of nature in 1836, a magnificent country, but it was farmed for reduction, and not for production, and it was reduced until the mortgages on the farms of Jefferson County represented 46 per cent. of the assessed valuation of the people. To-day the mortgages do not represent 7 per cent. To-day the banks of Jefferson County contain $1,400,000 in cash, put there by the dairy farmers of that country. To-day the dairy farmers produce 14 bushels of wheat per acre. To-day the county produces more grain than when it was entirely consigned to grain-growing. To-day that county wears evidences of substance and wealth as an increment of the farmers' knowledge and enterprise, and they rise and dot the landscape and horizon as an evidence of growing civilization. What has brought them there? My gentle audience—the cow. All things shall be added to him who loves the cow. (Laughter and applause).

## DOMINION EXPERIMENTAL WORK.

Prof. SAUNDERS being again called upon said: I can only present to you at this late hour a very brief outline of the work I have the honor to direct in connection with the Experimental Farms in different parts of this Dominion. The work we are

carrying on is all in the interests of agriculture and covers the whole of this country, from the Atlantic to the Pacific.

We have heard so much of Ontario to-night—and very deservedly so, because it is the banner Province of the whole Dominion—that it will not be necessary for me to say a great deal about the province, although it comes in for a very large share of benefit from this experimental work.

I will first touch on what is being done in dairying, and commence with Prince Edward Island. This little island is sometimes called the gem of the confederated provinces. The grass is almost as green there during the summer months as the green fields of old Ireland, and the scenery is of a varied character, which lends beauty to the whole country. Here we have perhaps the most methodical farmers of the Dominion. I do not know another section where the system of rotation of crops is carried on so methodically, as it is over the eastern end of this Island and for two thirds of the way to the other extremity. The settlers were chiefly Scotch, and they brought with them a good practical knowledge of farming, which they have put in practice and carried on most methodically, a seven years' course being the rotation generally adopted.

Many of the farmers there were of the opinion that they could not make cheese. They had tried and failed, and had got the notion that there was something in the climate or soil there which interfered with successful dairying. Prof. Robertson went down three years ago and satisfied himself that there was nothing to prevent the introduction of the dairy industry in that Province, and last spring he sent Mr. Dillon there to start a cheese factory. The farmers in the district built the factory, and agreed to supply a sufficient quantity of milk on the understanding that the Dominion Dairy Commissioner would run the factory long enough to show them that it could be made a success. A large quantity of cheese has been manufactured there during the past season, part of which was among the lot which Prof. Robertson has recently sold at such a good figure in England. Now, five or six other factories are going up on the Island, and I have no doubt that this industry will be rapidly extended there.

In New Brunswick, the chief business of farmers in the past has been the raising of potatoes, hay, barley and oats, and selling these off their farms instead of feeding them to stock, and by this course they have lessened the value and fertility of their farms. They are also taking up this dairy work, and within the last two or three years a number of factories have been established. A great impetus was given to the industry last year, when one of their cheese-makers took the second prize at the Liverpool Exhibition. An instructor has been sent by the Dairy Commissioner to give information to the cheese-makers, and in that way also the industry is very greatly aided. It is expected that within a very few years that Province, with its cool climate and luxuriant growth of grasses, will be one of the foremost cheese and butter sections in the Dominion.

Similar work is going on in Nova Scotia, where enough cheese is now being made to supply their own market, and some is being sent to Great Britain.

In Quebec the industry has been encouraged in every way by the Government, especially during the past year. The make of some of the cheese factories in Quebec now equals and sometimes excels the make of many factories in Ontario, notwithstanding the wonderful progress that has been made here.

The cheese industry brings into the pockets of the farmers a very large sum of money annually, and in the future this return will no doubt be greatly increased, to the great satisfaction of those who are engaged in the work. A fondness for money and a lively appreciation of a profitable return for one's labor is not confined to civilized communities. Several years ago when travelling with a party of journalists on the western plains we were treated to a grand pow-wow by a band of Indians. They went through some of their manœuvres with the understanding beforehand that we would take up a collection for them at the close of the performance. After it was all over I went up to one of the old councillors who took charge of the funds and said to him: "What do you think of the collection?" "Well," he said, "it's good, but I think the man who made that money was foolish to make so many small pieces." (Laughter.)

I must also refer to what is being done to advance winter dairying. Two years ago Prof. Robertson undertook to do something to advance this branch of industry. With that object in view two localities were selected—Woodstock and Mount Elgin—where a good supply of milk could be had for the establishment of experimental creamery stations. At one of these the system of collecting the whole milk was adopted and at the other that of collecting the cream. The factory which carried on the system of collecting the milk proved the greater success. The arrangement made was as follows: Patrons received an advance at the end of each month of fifteen cents per pound for all the butter they had brought into the factory during the month in the form of butter-fat, every patron's milk being regularly tested with the Babcock test and every one paid according to the amount of butter-fat brought in. After deducting the cost of making and marketing the butter, the balance was equally divided among the patrons, and the full returns averaged about twenty-three cents per pound net. The butter realized in England about as high a price as the best Danish butter.

A creamery was also established and carried on last summer in New Brunswick on the same principle. The butter made there has recently been sold at a very good price by Prof. Robertson while in England. Other creameries are now being started by the farmers themselves in several parts of that Province.

The two creameries which were set in operation last year at Woodstock and Mt. Elgin are being continued through this winnter. Another has been started near Belleville and one at Essex, N.B., all engaged in winter dairying, making four in all in the Dominion. The results realized from the work carried on this year are very encouraging

In connection with the work of the Dairy Commissioner instructors are sent each year to different sections of these Provinces. Two have been working in Ontario; two in the Maritime Provinces; two in Quebec and two usually in the North-west. These instructors have gone into dairy centres and endeavored to awaken an increased interest in the subject of dairying by taking hold of a factory carrying on the manufacture of cheese, and giving instructions to both cheese-makers and patrons with the view of improving the quality of the product all over. I am glad to be able to say that this work has been attended with the best results, and that, not only in the east but also in the west, has a general feeling of interest been awakened. A dairy association has been formed in Manitoba and one also in the North-west Territories, and many new factories are being started.

There is a great future before this country, ladies and gentlemen, for the dairy industry, and I hope you will all put your shoulder to the wheel and co-operate. We want the women as well as the men to take an interest in this work. Do your best to gain all the information you can on this subject and this industry will become a greater success than ever. I am sure that if the wives of the farmers do their best and bring to bear the energy and the genius they possess, with the industry and perseverence of their hnsbands, there is no country, not even the United States, with all due deference to my friend on my right (ex-Governor Hoard), can excel Canada in the quality of her food products, or prevent her from becoming one of the greatest food-producing countries on the surface of the globe.

Our work covers so much ground that it is impossible to touch on all points within the limits assigned to one address The endeavor is being made to cover all departments of agriculture and horticulture, stock raising, dairying, the cultivation of fruit and forest trees, forage plants and grasses, the testing of seeds of all descriptions, the distribution of these to farmers in different localities for tests; chemical work to assist in the solving of agricultural problems, and the investigation of the injuries caused to plant life by insect and other pests that infest the crops and the best remedies to subdue them. The best varieties of poultry are bred and the results reported on from year to year. The four branch Experimental Farms in the Maritime Provinces, in Manitoba, in the North-west and in British Columbia, are being worked in harmony with the Central Farm designed for Ontario and Quebec with the one great aim of doing the best that can be done to give valuable and practical information to the farming community of the whole Dominion. The information gained is offered freely to all who ask for it. Thirty

thousand farmers are now on the mailing lists at the Central Farm who have asked for the bulletins and reports, and who are receiving them regularly as issued, and every farmer who desires may share in this distribution. On receipt of a post card or letter sent to the Experimental Farm, asking for these publications, they will be mailed to the party who applies for them. They are not sent out in bundles to be distributed at meetings, as in this way some would be wasted. At the outset an edition of 5,000 was found sufficient. Now we are printing 35,000. I am sure there is no expenditure of public money which will be likely to do more good in the Dominion of Canada than that for the dissemination of information gained at these Experimental Farms. The year before last 20,000 extra copies of the Annual Report of the Experimental Farm were printed for a special distribution by the members of the House of Commons, and 100,000 was printed last year with an equal number of the Dairy Report for a similar purpose. (Applause.)

## THIRD DAY—MORNING SESSION.

The Convention resumed at 10 o'clock, Mr. J. S. Pearce in the chair.

Mr. MARK SPRAGUE, of Ameliasburg, the Association's Instructor, was called on to read his Annual Report, which he did as follows :

### INSTRUCTOR'S REPORT.

It affords me very great pleasure to present to this Association my report for the year just ended.

My work began on May 19th and ended the same date in December. There were twenty-one new creameries added this season, making a total of fifty-six that were visited and given instruction in butter-making, milk-testing and in the starting and handling of the various machinery. Of the fifty-six creameries, twenty-six are centrifugal or separator creameries, twenty-nine are cream-gathering and one deep setting. Last year the milk-gathering creameries were only one-third of the number ; this year they are nearly half. Of the twenty-one started this season seventeen use separators, and four are cream-gathering.

The daily average output of these creameries, at the time of my visits, was thirty-five thousand pounds; more than double the daily make of last season ; some of the creameries making almost a ton a day.

The trade for home consumption has been encouraged and shows a remarkable increase over last year. All the creameries have been striving to put up butter in the most inviting form, and, I may state, their labors have not been in vain, as many creameries sent out twenty hundred pounds per week in nice pound prints.

We held sixteen public meetings, giving encouragement as well as instructions to patrons in different parts of the districts travelled. I tested three thousand four hundred samples of milk with Babcock test and lactometer. The highest per cent. tested was 4.5. This, however, was rare. The usual percentage was between 3 and 4. The milk delivered at the creameries was especially good as to adulteration. There were a few instances, however, when a J. P. would have been in demand had the milk law been more rigid, were it not practically necessary to see the act of adulteration performed and have it testified to in order to succeed in getting a conviction. Paying for milk according to its butter-fat value will have the desired effect, and I hope many of the creameries, if not all, will start the coming season prepared to give each patron pay for just what he furnishes.

The tendency now is in the direction of winter butter-making, and the Association should encourage in every possible manner the lengthening of the creamery season, and, if possible, have the creameries in operation the whole year.

The creameries are nearly all in nice, tidy condition, and it has its influence on the patron in keeping his part in like manner. I have always tried to educate the butter-makers to keep themselves neat and clean and wear white aprons when at work, as it has a wonderful influence, not only with the makers, but with all who come in contact with them. I would recommend the creamery men to strongly insist that all milk be strained and aerated as soon as drawn from the cow. They should have resolutions passed at their annual meetings to this effect and see that they are adhered to by every patron, for there are just enough indifferones in each locality to contaminate, in many instances, all the milk and injure the product.

The cream-gathering proprietors should insist on their patrons keeping the cream as nearly sweet as is possible, and educate them to understand that it is not the high test of the cream that is most profitable, but that the inches of good, sweet cream is what he should bend his energies towards securing. The idea seems to have got among the patrons that if their cream does not test high they are not getting justice, forgetting that two inches of cream testing 75 per cent. brings them the same amount as one inch testing 150 per cent, while the former cream will doubtless make butter worth from two to four cents per pound more than the latter from the fact of its having been properly cared for.

I feel it would be doing injustice to the creamery owners, as well as the Creameries' Association, were I to close this report without mention of the very creditable display of butter at Brockville during the last annual meeting ; also at the Toronto Industrial Fair in September last. The exhibits were admired by everyone, especially by those who had the opportunity of sampling them, for the fine flavor and evenness of manufacture. The Creameries' Association was commended for their effort to raise the standard of Ontario's butter. The fact of butter sent from another Province being withheld from competition after its arrival there speaks volumes in favor of the Ontario make. In fact, the success of the Association increases with years.

Thanking the creamery men, butter-makers and Creameries' Association for their kindness and courtesy extended,

I remain, etc.,

MARK SPRAGUE.

Hon. Mr. HOARD: What do you think the average of milk in the Province would be?

Mr. SPRAGUE: I do not think it would average more than 3.29. I have figured the average out several times at cheese factories and never have had an average to exceed 3½ per cent.

Mr. JOHN LACKNER: Do you consider the instruction given in connection with the cream-gathering system sufficient to the requirements? Does it arrive at the end at which it is aimed?

Mr. SPRAGUE: Well, that would mean, do I feel myself capable of filling the position? I think the system of instruction has not gone far enough. I think it should go to the patrons. I find many good butter-makers who do not get milk that will enable them to exercise their abilities to the best advantage. I put in altogether 126 days, and you can easily find by figuring how many days I had in which to travel from one factory to another. While some makers probably had no need of me, others would take up considerable of my time. I would ask the maker, on going to a factory, if there was anything he was doubtful about, and where there was any difficulty we would have a conversation of an hour or two, and then I would go on to some one else and probably stay two or three days. Perhaps it created some jealously that I did not give so much time to some as to others. I think in a great many cases the makers could get over their difficulty by calling meetings and educating the farmers as to the best way of raising the cream and caring for their milk. There is one thing that I am convinced of—that we are drifting into the separator system. I think the time is not far off when there will be a separator in every creamery. Last year one-third of the factories only had separators; this year the separators only lacked one or two of being half the whole number of creameries; and next year, I think, they will be in a majority.

Prof. DEAN: Do you have anyone apply to you for information?

Mr. SPRAGUE: My instructions are to go to each creamery twice in the season.

Prof. DEAN: Don't you think it would be advisable to apply to you; your time in going to see applicants would not be wasted?

Mr. SPRAGUE: That might create a jealousy among members of the Association. In this way the distance travelled might be made too great. At present I arrange to get to one factory after another in succession, and in this way the work is made economical. The creamery men pay $5 each for instruction, and outside of that they get the instruction gratis and probably do not appreciate it as well as they might. Some of the creamery men have engaged me this fall, after my work with the Association was over, for five, six and seven days, and paid me out of their own pockets. When they pay for instruction they probably prize it more than they otherwise would.

Mr. WENGER: The trouble is that the very people you want to teach think they know it all. The very people who are wanted at such meetings as this will not attend. There is work for the proprietors themselves to do by getting the best literature that is to be had and educating themselves. We cannot expect the instructor to go to people who will not come to see him. The idea among many people seems to be to get a high test of butter-fat in cream. What we want is pure, good, sweet cream and an honest test. We know that the cream-gathering system is the best that has yet come into our neighborhood.

Mr. MOYER: It seems to me that the instruction required at the separating and cream-gathering factories is altogether different. Where the cream-gathering system exists the instruction is required more among the farmers. Now, would it not be advisable to travel perhaps one man in the east and another in the west—one man to attend to those factories in the east where they have centrifugal machines, and another right here among yourselves to go around among the farmers?

## PRACTICAL CREAMERY WORK.

Hon. Mr. HOARD was again introduced, and said: There are some things that I note here in Canada. I note them everywhere. I note them among our people. It seems to me we need reformation. How shall we accomplish it? Just as we begin to turn the white light of experience and thought upon some of the frictions of your own work these reforms will come. But can we hasten them a little? The world improves to-day by the fruit of the experience of the world. In olden times famines took place, and one portion of the world would have abundance and the rest be starving to death. What has changed that? The experience of the world has brought one portion of the world into contact with another by railways and steamships, and you can relieve mankind now where you could not once. So it behooves every portion of this dairy world to be in sharp, practical contact with each other, so that if any one portion of it is doing business at a less expense and more effectually the other portion "catches on," as the boys say, just as quickly as possible.

Now, in the report of Mr. Sprague, there was a lesson that I want to call the attention of patrons here to, and the quicker way, you know, to bring out these facts is by comparison. Mr. Sprague said that the average milk received at the creameries in this Province was about 3.30 per cent. Now, how much money does the farmer get out of such milk? If you could put a charge of dynamite under these farmers and hoist them up so that they could see these facts, if they did not stay in the air more than ten minutes, it would do them good. (Laughter). Your average milk per cow does not exceed 3,000 lb. Add 49 per cent. as the value of your skimmed milk to the 3.30 per cent. butter-fat and you have a percentage of 3.79 per hundred pound of milk. Multiply that by 20 cents as the average price and you have $22.80 per cow. "My countrymen"—for you are my countrymen—"lend me your ears." This is a most beggarly showing for a proud province. Why, I heard President Derbyshire lauding this province last night until I had about made up my mind to sell out and come over here, but that restrains me. I do not believe but that the province is all right. The soil is right. You remember that old hymn, "Where every prospect pleases and only man is vile." (Great laughter). The difficulty is not with Canada, nor with the province, but it is with the average farmer here who has not bestowed any thought on these questions. What is the matter with these cows? I will tell you. A certain proportion of them are not intelligently fed nor housed. The butter-fat is taken right out of that milk to nourish themselves. You have heard the old expression about a certain thing being fit for a powder house. A proportion of these cows are no more fit to administer a Canadian's fortune than the poorest cows are to administer my fortune for me. You cannot keep a cow in this province and furnish a farm for her, taking into consideration the price of land, the interest on your money invested, the cost of fencing and the worth of hay and all put together, for $22.60. When a man contents himself with doing it, he is like the old woman who bought shot for 12 cents and sold it for 10 cents and comforted herself with the thought that the only way to make any money was to do a large business. (Laughter). The average milk in my own creamery for the year just past is over one pound greater than this. It is over 4.60. I do not want you to run away with a wrong impression. The Hoard Creamery is an exceptional creamery. I furnish 1,200 families in Chicago with their butter every week. It is put up in 4 lb. to 20 lb. packages, sent by express, and delivered at their doors. Therefore we have an exceptional price. But the question as between the men and the cows has nothing to do with the price.

Now, I want to show you. Here is our annual report, and here is the name of every patron and the averages for the year per hundred pounds of milk, but I am only going to read you one or two results from this report. Here is Thomas Spry, the average of his milk for last year, closing in September, for that is our fiscal year, was 88 cents a hundred. That is what he got for his milk for the entire year. Now, just above him is Col. Burchard, and his average for the year was $1.25 a hundred. Both sold their butter at the same price, and yet you cannot make Tom Spry believe in his old English heart but that his cows are just as good as Burchard's. "It is all blamed rot," he says, "talking

about the difference in cows." I point out the difference in Burchard's receipts and his per hundred pounds of milk and ask him, "How do you explain that?" The trouble is just the same there as here. We have in our section a large number of Jersey and Guernsey grade cattle. We have been pounding the necessity of breeding dairy cattle into farmers until we have improved their cows. We have been saying, "Butter is what you are after; why, in the name of common sense, don't you try to get a butter machine and try to breed for more pounds of butter in a hundred pounds of milk?" We have the results ranging here $1.06, $1.03, 99c., $1.00 per 100 lb., and so on. Now, this thing as between men is the difficulty I am striving to correct. I do not care if we did not sell our butter for more than 18 cents a lb. the difference would be there just the same as between the men. The low man would go lower and the high man would go lower also, but there would be the same difference of per cent. between them. The price you get per lb. does not make the difference in the men. It is the individual ability of the man to take hold of his cows.

What decreases the yield of butter-fat? Exposure. What is animal fat? Carbon. What is carbon? Heat-producing material. Drive your cow out on a cold day to drink out of a cold, frozen stream, and what do you do? You force the cow to consume the butter-fat—the carbon—for her own safety and her own want. Can you eat your cake and keep your cake and give away your cake and sell your cake, too? Can you take the butter-fat out of the cow's udder and freeze it out of her too? No. You are warming the cow with 20 cent butter. My friends, if we could only project the idea of thinking into these men there would be a reformation in Israel; but we have gone off worshiping after the gods of the Philistines and the heathen and we do not worship at the foundation of common sense.

Another thing which takes the fat out of milk is improper feeding and improper housing. Every one of these things detract from the milk. Start a cow with good breeding at the first. Breed her for a purpose. When you purchase a sire purchase one that has some heredity back of him, so that as far as possible his progeny may have a talent which he took from his mother. I do not know a single man on earth that would expect to raise an intelligent American grand-daughter by marrying his daughter to a Chinaman. (Laughter.) I know I would object to it confounded "quick," because I want my grand-children to be Americans. What is true of men is true of animals.

What takes the butter fat out of milk? I told you yesterday—cruelty. A man who would do an injury to my cow would have no chance to do an injury to my wife, the mother of my children. Both of these are mothers—my wife and my cow—and I propose to have them treated as a mother ought to be treated. (Applause.)

You were talking of the Babcock test in creameries. Get the Babcock test into your creameries as soon as old Time will let you. I have to-day 360 patrons. When I first started the idea the patrons were all up in arms—some for and some against it—and it was like an old fashioned Irish fight. Tim Finegan's wake could not beat it. I felt amused between some of them swearing and declaring, "It will never do," and some of them maintaining, "We had better do it," and how to get these fellows into an agreement bothered my old head a good deal. Finally I said, "I think I have got 'em." I wanted them to go into this arrangement for their own good. "Boys," I said, "you cannot help but be suited; I will put two vats in the creamery; one vat shall take the milk of the men who want to divide by the Babcock test, and the other vat shall take the milk of all you fellows that want to divide on the pooling plan. The men who give the good milk will have their milk put over into this vat; the men who give milk that is suspicious will have theirs put into the other vat." You never saw a lot of fellows back out of a thing so quickly in your life as those fellows whose milk was put in the pooling vat. (Laughter.) They could not trust each other. This shut off that whole controversy. The result was we only used that extra vat about three or four days when they said, "We will go into the other." So we held the tests, and we never had any difficulty since. Now you could not drive them back to the old system with a battalion of privates. There is a sheet stand in the factory on which the records of each patron's milk is kept, and every man knows that he is dealt with according to the deeds done in the body and he is not judged for another man's misdeeds. But you say, "Cannot the

butter-maker cheat?" Oh, if he chooses. So can you if you want to. I sometimes think that men who are anxious about other men's cheating know more about their own cheating. A man says, "How can you tell by that bottle? Why cannot the factoryman cheat me and help someone else?" He can. Could he not cheat you when he was weighing the milk by the old plan? He could. Is there any way in which you can associate with your neighbor in a civilized way where your neighbor cannot get a dishonest advantage of you—cannot lie to you? Why, the only liberty we have on earth is the liberty to lie. (Laughter.) I told you how we take in this milk and test it. Creamery men and cheese factory men are loth to adopt this method because, they say, "It is going to make so much work for us, and it is not going to benefit us a particle," and patrons say, "We will get just as much money by pursuing the old plan," and that is just where they are fooled. We found that the Babcock test increased the butter-fat one-third of a pound, in one year, in every hundred pounds of milk. Do you not see that gave us a good deal more butter to make, and that the patrons got considerably more pay? Now, why did that increase it? In the first place, it cleaned out all the moral hazard, all the dishonesty. There was not a man cheating down the whole line. Now, when a creamery is running without a separator it gives credit for all the fat it gets, not for all the fat the milk contained always. The Babcock test gives credit for all the fat the cow puts into the milk. Under the pooling system the milk is skimmed for the cats and for tea, and it is watered sometimes. But from the very day it is tested, that very minute, men begin "to do works meet for repentance."

Now, we take in this milk in this way, and we take the Babcock test in this way—the simplest way I know of, the way I am certain of myself, and I am never certain for anybody else. The first thing is to get a true sample of a man's milk. In order to do that the milk must be thoroughly mixed. The moment the weighing is done the milk is started down an open tin spout for the vat, near the foot of this spout there is a hole punched and a jar set under this hole so that a drop of milk from about every pound of milk falls into the jar. The small volumes of milk drop just as shot fall. When the first man's milk has run down the spout the gap is closed. Then the next man's milk is emptied in the same way, and while it is being emptied a man picks up the preceding man's bottle and takes a pipette and measures the milk into the proper bottle. We take one-third of the quantity sufficient for our test each day and test every three days. By the time the first man's sample has been taken that of the next man is ready. Three hundred and sixty patrons come there and go away and all their milk goes through this man's hands. Can you see any particular difficulty for you, if we can handle that number of men there, to handle them here? I think not. Now, this system is devised for the saving of time and labor, and I believe it to be a good one. But there are other systems that other men work under just as effectually and just as efficiently. The same harness does not fit every horse, and we have a right to be fitted in this world if we can.

Now, the average production of butter—pounds of butter to pounds of milk—as I said to you, is increased wonderfully wherever we put in the Babcock test. It was not dishonesty that kept it back altogether before; but it was the lesson of the test every day on these men in better breeding and feeding and housing, which has increased the yield, and they are making a good deal more money than they used to. Last year I used to be out among the farmers testing cows, and I believe they are reducing the number of poor cows—cows that have been boarding at their expense. Dr. Babcock has done this country more good than any man that has stood up in it. I have heard a man state that the Babcock test could beat the Bible in making people honest. He said he had quoted Scripture to his folks for years, and it did not make a particle of difference. When he put the Babcock test in, the quality of the milk walked right up. Cheese factories and creameries are only secondary considerations. They will take care of themselves. But the man to elevate—everybody waits on him—is the man who makes the milk, and all our progress has been just in proportion to his progress, and no faster.

Do not be afraid about overdoing this business. Do not worry ourselves that if you should buy one cow the whole business will be overdone. Go right at it. Some people exclaim: "Oh, see the creameries going up; see the cheese factories! Why, they are

going to overdo the business;" and I never knew one of these men to give a pound of milk to the business. But the business does not stand on the creameries and oleo factories. It stands on the cows. Half the calves born are males, and then half of the heifers never reach "cowhood;" and when they do and you have got through the sifting performance—you have only one cow left in ten. You cannot overdo this business. The increasing demand for dairy products is away beyond the supply. Where would you be to-day, and where would we be, if we could clean out this oleomargarine at once? You would see butter so high that a man could not reach it with a ten-foot pole. That is what is holding it down to-day in England, and yet see the price. Mr. Burchard and Mr. McPherson, whom I told you about, are wise and astute enough to force their cows to produce the butter in the milk faster and faster. Now that is in winter; and then they are sharp enough to milk their cows to within sixty days of the calving period, and then keep the cow for the butter business and for money. I think it is a great deal easier on the cow and me also to do business every day at the same old stand than to be going along at the six months' conditions. To-day we are receiving 14,000 to 15,000 lb. of milk in our creamery. In 1887, when we commenced winter dairying, we could only get 4,000 lb. of milk. We have changed those patrons, and to-day they have their cows come in fresh in October, November, and December, and the result is that to-day we are getting between 14,000 and 15,000 lb. Just in that measure we have added to these men's production of milk. Then we have got them to put intelligence into the raising of calves, to build silos and reduce the cost of feeding, and those men have been making money. I said to you that the bank of my county held $1,400,000 in cash deposited by these men. A large proportion of our people are Germans, who do not deposit their money in banks, but in their stocking legs. There is an immense amount of money which lies in these old German farmers' houses. An old German said to me one day, "Somebody may come along and kill me for the money, but if I put it in the bank the bank bursts, and that kill me too." (Laughter.) You cannot measure the wealth that has come to these people by the deposits in the bank, but that gives you an idea. My advice to the Canadian dairy people is to be perfectly open and frank with the farmer, and my advice to the farmer is to trust the creamery. You cannot get along without mutual confidence, and every ounce of information you can get on this subject will be of benefit to yourself and to every one else. (Applause.)

## ELECTION OF OFFICERS.

Mr. Aaron Wenger reported that the Nominating Committee had concluded to recommend the same officers as last year. Mr. Graham had unfortunately been obliged to retire from the position as Secretary owing to pressure of other business, and Mr. Hannah had been suggested in his place. We could not, he said, find a better Chairman to preside at our meetings than Mr. Derbyshire. More than that, we have a great work before us during the coming year. We want more money and there are a good many new creameries being started. Then there is the Columbian Exhibition. On the whole we consider it advisable to nominate the same Board. With regard to myself, as First Vice-President, I would be prepared to retire if Mr. Hannah were free to take the position.

Mr. James McMullen, M.P., moved the adoption of the report, seconded by Mr. Thomas Gibson, M.P.P.

After considerable discussion, touching the personnel of the Board, its representative character and the payment of expenses of Directors, the report was received and adopted.

## HOG BREEDING IN CONNECTION WITH THE DAIRY.

Mr. C. E. Casswell, London, read the following paper :

I hope my remarks on this subject will prove, not only interesting, but be the means of giving information to the farmers of this country, and that swine breeding, will realize at an early date, a large amount of money value to the farmer, thereby benefiting the country at large.

My object is to bring the packing industry, which I represent, to the front; also the farmer and his interest, and also this Canada of ours. Without the assistance of the farmer it would be useless for capitalists to invest in such buildings as they have to in order to successfully kill and cure bacon for the English market.

I shall not take up your time by talking butter, as other gentlemen present, more capable than I, have discussed that; but I would just say that I am glad to see this Convention is now taking up new ideas, and being run on new lines which will no doubt be the means of doing more good in the future for and in the dairy interest, and the old management are to be congratulated on feeling and seeing the good they have accomplished in the past.

In the early days of the cheese factory system it was customary in some cases to feed the hogs at or near the factory, in some low place, or in a hollow, or in a ravine, so that they could get water, thereby losing all the manure by washing away, and thus wasting a manure, which is so highly valued in England as a fertilizer, and at the same time allowing the hog to bask and boil in the hot sun and flourish. What in? Why, *whey*, pure and simple.

What is the custom now if fed at the factory? They are provided with a good field, a pasture, fed regularly with, not whey alone, but grain, shorts and other mixed foods and kept clean, thereby paying the man or company who intelligently feeds and cares for the hogs in a proper way. Remember, there is no gentleman in the country who appreciates clean quarters, good food and proper attention more than the hog.

Regarding the whey, my opinion is if it could be taken back to the farm in some way, so as not to injure the flavor—and this is now the opinion of nearly all leading and progressive men in the business—it would be of more value and do more good by being mixed with other food and waste from the house and dairy than by being fed at the factory.

No doubt these ideas will bring out some controversies, criticisms and discussions, and in the end will do good, as a discussion from the floor will, I hope, draw out the ideas from men whom we want to speak at these conventions. I wish there were more discussions from the floor.

Mr. Curry brought out some very choice Berkshire hogs from Gloucester, England, and I also imported from the old country some years ago some prize Berkshire hogs which took first prize at the Bath and West of England Show, held at Dorset, and improved the breed of hogs in the Ingersoll district. Now many of our leading breeders import and show every season at our exhibitions the best and most superior hogs that are shown at the exhibitions in the old country. Some people think these fall shows and exhibitions are no good, and waste of time. Not so in my opinion, as there the farmer meets the importer and breeder, compares notes and sees what his neighbor in this country is doing. Besides, it is one of the best advertising mediums for a new country like ours—Canada—and I say Canada in big letters. We ought to be proud of our Industrial Exhibition in Toronto, and the Western Exhibition at London. No foreigner, American or anyone else visiting these fall exhibitions could but be impressed with a favorable idea of a country that can produce such cattle, horses, fruit and such samples of grain, roots and flowers, and such cheese. I wish I could say butter, but I hope ere long we shall be able to have as good a position in the foreign markets in butter as we now have in cheese.

Much good may be expected to result from the intelligent and practical plan which Prof. Robertson is now adopting, and in connection with which his journey to Europe at present has been made. I mean the introduction and instruction of creameries and the advocacy of winter dairying. The possibilities of butter-making are not yet known, so far as Canada's natural advantages are adaptable thereto.

I was pleased to hear the remarks yesterday afternoon from the Hon. John Dryden, Minister of Agriculture for Ontario, especially as he has a practical sympathy with us as well as being interested in his public capacity as Minister of Agriculture. He has the assistance and knowledge of the Hon. Thomas Ballantyne, Speaker of the House, who is a well-known, practical dairy expert, and there is no doubt but that they will do all in their power, both individually and in their public capacity, to assist, and I may say "boom," all such associations as this and others connected with the agricultural interest of this country. We are proud of such institutions as the Agricultural College at Guelph, under the management of President Mills, and with Prof. Dean at the head of the dairy department—men who are well fitted to fill the positions they occupy. Also the Experimental Farm at Ottawa, under the able management of Prof. Saunders, whom we happily have with us to-day, and who may be congratulated upon having the assistance of Prof. Robertson.

We now have the best foreign markets almost at our doors, with the best of railroad and steamship facilities, thereby reducing the distance and cost of transit, and so on, all of which inures to the advantage of whom? Why, of the Canadian farmers and breeders. I understand that it is now in contemplation by our railroad and steamship promoters to build a line of steamships that will reduce the time between this and the European markets, thus enabling the exporter to place perishable articles, such as butter, cattle, cheese, fruit and so on, in a comparatively short time on the eastern markets of the world, thereby enhancing the value of this great food-producing country and reducing the risk of the men who invest their capital in such large amounts as they do in such perishable articles. What would be the use of raising the farm products we do if it were not for the network of railways and splendid ocean service we now have?

The packing company which I represent are anxious to have the co-operation of the farmers of this country. We want them to bred and feed hogs to a much larger extent, and the sort of hogs required to make singed bacon now so much in demand.

Remember that it will require a large increase in the hogs you must raise to supply the several packing and curing houses you now have almost at your doors in this country, and also remember you will be able to sell all the hogs you can raise, and at paying prices, provided you breed and feed the kind of hog required for bacon purposes.

There is a difference of opinion in this country as to the best breed of hogs to keep, but one thing is certain, you must breed the hog that will give you a long lean side of meat necessary to make the fancy quality and shape of singed sides now required in the European market, London especially. The grass breeds and Suffolks are now out of fashion, as they give too much shoulder and fat, and are too short and thick.

In the past the Chester White, the Poland White, the Berkshire, and of late the Tamworth, have all proved good pork and bacon hogs, but some of the leading packers in this country and England, and especially the Danes, seem to have the impression that the middle sized Yorkshire is the best, as they give the long, lean side so much required. I believe the Tamworths lately imported by J. L. Grant & Co., of Ingersoll, have done much good as a cross on the Berkshire, as the Berkshire has been run down too fine, caused, perhaps, by inbreeding. For myself, from my experience, I still have a liking for the Berkshire hog for bacon purposes.

Mr. Geary, the worthy President of the Western Dairy Association, has been, during the past season, feeding hogs practically, and, I might say, was successful. I understand from him that wheat fed at market prices would make a profit to the farmer if the hogs were bought at five cents and sold at five cents live weight, so it is better to feed your wheat than sell at 65 or 70 cents per bushel as has been the case this fall. Besides by feeding wheat you are producing the very kind of pork required for the finest bacon, being more juicy and palatable than from hogs fed on Indian corn or maize.

Mr. Ballantyne recently jotted my memory with a little instance which happened when we were both visiting in England some years ago. He went with me to my house and vicinity, and, together with other friends, we went to the pork packing establishment at Calne, conducted by the Harris Bros., the greatest bacon curers and the producers

of the finest Wiltshire singed bacon in the world. In fact they are the firm which I believe to be the finest producers of the so-called Wiltshire side—a term which I believe all copy—and the firm make the longest prices in the world for singed bacon made by them at their packing house at Calne. Mr. Harris told Mr. Ballantyne and myself the reason that they were able to realize such a long price for their bacon was that it was dairy-fed hogs which always make the finest bacon; but the Danes are now on the track and pushing their meats to the front and obtaining prices closely following the Irish and English bacon, and I hope the day is not far distant when Canadian bacon, by proper breeding and feeding of the hog and special curing, will also be to the front in the English market and excel both in quality and price.

Then, again, I have another point for the serious consideration of the farmer. That is the question of breeding and feeding horses, which in many cases are eating their heads off when there is no prospects of an immediate market. In fact, if the electric car comes into universal use there will be still another depreciation in the value of horses. Now, supposing that amount of food, money and labor had been used the past year in feeding hogs instead of horses what a large amount of money would have been turned into the farmers' pockets. This is a matter worthy of your careful observation. If you have young hogs, or pigs, or breeding hogs, there is no food so cheap and so well adapted to carrying them through the winter, thrifty, growing and healthy as Swede turnips and good clover hay, in addition to the waste from the house and dairy.

### The Bacon Hog in conjunction with the Dairy.

In the year 1880 Denmark was raising comparatively few hogs, compared with what she exports at the present time to the old country.

Exports from Denmark prove that from 1880 to 1890 the supply increased fifteen times as much in ten years. And from 1890 to 1892, the latter year which has not yet expired, seven times as much again in two years.

It must be rembered that Denmark is only about two-thirds the area of Nova Scotia, one of Canada's smallest provinces. Denmark has at the present time nearly forty packing houses.

In the year 1880 only 17,000 hogs were made into bacon and sent to England. At that time the price that Danish bacon was selling at was 15s. (nearly equal to $4.00) under the price that Irish bacon realized. What is the result now? The Danish farmers, by simply paying close attention to the breed and quality of their hogs, can now produce over one million hogs annually, suitable for the English markets, and make the same price that Irish is now sold for.

The Danish farmers always select the longest and best developed young sows, from the best mothers, more especially white sows, but do not use them for breeding purposes until they are six months old. Of all the various breeds of boars, the White Yorkshire, middle size, has always given the most satisfactory results, and the quality of the bacon suits the English markets the best of all, as also in length, style and thickness of bacon.

Select your hogs for breeding purposes that are good feeders and which grow the largest on the same food, under similar circumstances, in the same time.

Never sell a good sow that has proved a good mother; nor dispose of a good boar that has produced good stock, on account of his age, appearance or form.

The finest pork is made by feeding hogs on barley, rye, wheat, and peas (as grain food); but besides that, you must use boiled potatoes, skimmed milk, butter-milk or whey.

Turnips (raw), cut small, are excellent to mix with grain.

We strongly advise farmers to avoid feeding hogs on Indian corn, or maize, for this reason: It tends to make the meat extremely hard, coarse and dry; and the fat that should be a firm white, causes it to be very yellow, oily, soft and rank

It shows itself in that form after it is smoked and cured.

If you use Indian corn, or maize, only, you will not be able to produce better pork than the Americans, and the English trade does not demand such quality, nor will they pay the price, as it would be impossible to classify such meat as finest.

Bear in mind, that it does not cost more to make the finest quality than the common American bacon.

Hogs most suitable for the finest bacon should range from 180 lb. to 220 lb., live weight, which weight will pay the farmer the best.

The trade requires a long, lean hog, with good, well-developed hams, thick, straight bellies, and fat on back not to exceed one and a-half inch thick.

The Danish Government have proved many times by experiments on their farms the various values of the different sorts of food for hogs, and the results they exactly gave as to the individual merits of the foods are as follows:

440 pounds of grain make 100 pounds of live hog.

One pound of grain equals 4 lb. of boiled potatoes.
" " " 6 lb. of skimmed milk or butter-milk.
" " " 8 lb. of turnips cut small.
" " " 12 lb. of whey.

(This is a tabulated form translated from the Danish Government Dairy Report.)

Barley, rye, wheat and peas produce the best pork.

All grain should be ground and soaked overnight, and mixed with other foods, and given to the hogs when on the point of turning sour. In all cases feed hogs with mixed foods, which will give the best and most valuable results.

Never give more food than a hog can comfortably eat, and also remove any food left in trough not eaten.

Hogs will grow faster and do much better by keeping them perfectly clean in every respect.

In cold or wet weather keep the pens or styes well littered and dry. This extra trouble will repay farmers, as it always gives the best results.

Six or eight weeks previous to marketing in the summer, and when it is not cold, allow the hogs a range for exercise; and if a farmer studies his own interests, he will never feed his hogs previous to shipping them, as in many cases he looses one or more before or about the time of delivery, as many have proved to their cost in the past.

The Danish Government has given special attention to bringing the pork-packing and butter-making industries to the highest standard of perfection, by instructing the farmer in producing the best quality, and at the least cost, and the results have been most satisfactory to every farmer in Denmark.

The Danish butter is acknowledged to be vastly superior to that of Canada, and it is possible that the Danish whey or butter-milk may be superior in feeding quality to that of the Canadian.

The London market is the most critical market in the England. The Danes send what London wants, viz., long, lean bacon, and their product is appreciated, and is seriously handicapping all American and Canadian meats.

Now, we hold that what the Danes have succeeded in doing—and that in a climate similar to Canada—Canadians can do and do easily. Only let the farmers of Canada raise the right kind of hogs, feed them on the Danish principle, keeping the animals dry and warm, and of course thriving and doing well, then the Canadian farmers will see that by raising all the hogs they can, it will pay them better than anything else on the farm, just as clearly as the Danish farmers see it, and a big future is in store for Canada.

To ensure a good market, it is absolutely necessary that a steady supply be maintained all the year round, in order to meet and satisfy the demand of the English consumer.

If the farmer regards his own interest, he will sell his hogs on foot, alive, as he will obtain more money that way than by dressing his own hogs at home, and also save a lot of time, trouble and expense to himself and family. Besides, packers *must* have the hogs they buy delivered *alive*, as they can dress them to better advantage, produce a finer quality and better style of bacon, and realize a greater money value, by utilizing much

of the offal which the farmer must necessarily throw away; and again, with the facilities now possessed by packing-houses, they are enabled to kill and dress so much more *expeditiously*, that a large item of expenditure is also saved, thereby enabling the packer to pay the farmer a higher price for the live hog. These facts show why the farmer should always sell his hogs alive. Any farmer can easily satisfy himself on these points if he will take the trouble to practically test the results, by weighing one lot of average sized hogs—say three or more—and seeing what they will bring alive, then to kill and dress the same hogs and note what they would fetch at the same time and in the same market killed and dressed.

## CO-OPERATIVE DAIRYING ALL THE YEAR ROUND.

Prof. Dean read the following paper:

Dairying as regards seasons may be divided into summer and winter.

Some disadvantages of summer dairying are: (1) That labor is dear and the weather is such that the milk is apt to become sour before it can be manufactured into a staple article. (2) The product is easily spoiled, especially butter.

Its advantages are: (1) Little or no artificial heat is required. (2) Both good butter and cheese can be made if the conditions are suitable. (3) It enables the farmers, who believe in summer dairying only, to make a fair living and paves the way to a more extended business in winter time.

The requisites are: (1) A large number of cows within a small territory, and these of the best kind, well watered, well fed, and salted regularly. (2) Good buildings in which to manufacture cheese or butter, and proper utensils for these buildings. (3) That no whey or butter-milk shall be returned in the same cans which carry the milk to the factory. (4) That milk be paid for according to the "relative value plan" instead of by bulk. (5) Proper care of the milk or cream. Both of these should be sweet when the driver calls for them. The cream is best kept sweet by keeping it cool in a water box and by skimming sweet at all times. The object of patrons should be to furnish good cream and not to make a "high test." Two inches of 75 per cent. cream is equal to one inch of 150 per cent cream, while the former is much more valuable for the production of fine butter. (6) Good roads. The crusade in favor of better roads is timely, as much time, labor and money is needlessly spent in the dairy industry owing to lack of good roads.

Winter Dairying: The Danes, as a people, have gone into dairying in the winter, and we are just beginning to follow their good example. This feature of the industry may be developed in one or both of the following directions: butter or cheese. If factories were properly built, and curing-rooms could be kept at an even temperature there is no reason why cheese could not be manufactured in winter as well as summer. We are making cheese every day during February and March in our dairy school and find little or no difficulty. Climatic conditions, however, are more favorable for butter and this is likely to be the future of the winter dairy in Canada.

The disadvantages of the winter dairy are: (1) It means an outlay of labor and some capital, which a good many are unwilling to expend. (2) The snow and frost frighten some, and possibly in the northern and eastern portions of the province these may prove an insurmountable barrier, but in most parts of Ontario these need not be a possible hindrance. Milk and cream should be protected from freezing. The motion in driving is usually sufficient to prevent them being frozen. (3) Bad roads, especially before sleighing commences and in some places where it drifts to a great extent. To prevent the latter, the roads should be made wider and some means provided for its prevention, or at least a proper breaking of the road after each drift. A pair of harrows and a heavy roller is used in Quebec with good results, so I am told.

Some of its advantages are: (1) It lessens the work on the farm, making the farmer's home more pleasant and consequently giving more time to the "women folks" for fancy-work, recreation, etc. (2) It divides the work more evenly over the year, and producers of milk may engage help by the year instead of by the season. This help will prove profit-

able and advantageous in many ways. (3) The farmer's whole attention may be given to the cows and the care of the milk and cream. No other work is pressing him and he should be able to produce a better article than in summer. (4) There is less competition because it requires skill and enterprise, and the "average" farmer does not go into it. (5) If a fresh, rosy article be supplied it will increase the consumption causing a greater demand and consequently a better average price will be obtained. It is possible to create a demand as we see in the case of the telephone. (6) The farm will be enriched, as 80 per cent. of the fertilising material in the food fed dairy cows is again returned to the farm in the form of solid and liquid excrement. (7) There will be less food wasted in maintenance. About two-third of the food fed a cow is required to keep her alive and in condition to perform bodily functions. What we get from her in milk comes from the other one-third fed. This food of maintenance without getting any returns should be reduced as low as possible by keeping the cows milking as long as possible.

The requisites are: (1) Men who believe in winter dairying. Men who are neat and clean, good judges of cattle, and who have business heads on them to buy food and cattle and feed them in the most economic manner. (2) At least half of the cows "fresh," as "fresh" cows produce butter of finer quality than from cows which have been milking for a long time. Cows for the winter dairy should be fed from December 1st to May 1st, and they will drop their calves from September 1st to February 1st. (3) Suitable stabling kept at a temperature of 55° to 65° Fahr., well-ventilated, comfortable, tight floors, water in stable if possible, and stables and cows kept perfectly clean. The length of stall required to keep cows clean varies from five to six feet from the drop to the manger. The drop should be six to eight inches, and the floor on the farther side of the drop should be four inches lower than the platform for the cows. The cows should be frequently carded, and it is a good practice to clip the hind quarters with a pair of horse clippers. (4) Cheap food and food adapted for milk production. The following are rations we have used in our winter dairy with good results: 50 lb. ensilage, 6 lb. hay (long), 4 lb. bran, 2 lb. mixed peas and oats. Cost 9.2 cents per day. Another is, 50 lb. ensilage, 6 lb. hay, 2 lb. cotton-seed meal, 2 lb. oat-meal, and 2 lb. bran. Cost 10.8 cents per day. Still another is 50 lb. ensilage, 6 lb. hay, 8 lb. wheat (ground finely). Cost 12.8 cents per day. (5) Suitable buildings and utensils for the manufacture of butter, and a competent maker. If the work has progressed so far and is then not properly made into the finished article all the previous labor is almost thrown away. Let this part, which is most important, be attended to in the very best manner. (6) And lastly we require suitable markets. Home markets will absorb a considerable quantity of factory butter for some time to come, and when these are supplied we hope that foreign markets will have been developed sufficiently to take all we are able to produce in winter.

All this cannot be accomplished in a day, but pluck, perseverance, push and brains are bound to succeed.

The Convention then adjourned till two o'clock.

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## THIRD DAY—AFTERNOON SESSION.

On resuming, Mr. F. T. Shutt read the following paper:

## THE SILO AND ENSILAGE.

If it were asked what branch of agriculture in Ontario had of late years made the greatest advancement, we should find the unanimous reply of those who were cognizant of the facts would be—dairying. And, again, if the enquiry were made, "What has been the chief factor in this progress?" the answer would undoubtedly be, "The introduction of the silo and the use of ensilage." It is not my purpose, this morning, to point out to you the benefits of dairying, of butter and cheese-making. When addressing this Convention last year, I showed how dairying—even to a very limited extent—corrected

the lop-sided system of farming that has been in vogue for long in our Province. I emphasized the fact that, apart from the special profits ensuing from selling a manufactured article, *e.g.*, milk, butter and cheese, over the gain to be derived from parting with the raw product, *e.g.*, as the ordinary farm crops, there was the benefit arising from the increased fertility of the soil under a system of mixed farming. I put before you, in as forcible language as I could use, the statement that by feeding the crops on the farm, over 75 per cent of the plant food taken from the soil was returned in the manure; how that in the manufacture of milk, butter, cheese and fat stock, very little of the fertility of the soil—the farmer's real capital—was sold. These and many other advantages, well known to yourselves, have been brought before you on a former occasion.

Now, I have already said that the silo and the use of ensilage have been the chief factors in bringing about this progress and advancement in dairying, It is the feeding of ensilage, principally, that has enabled our Ontario farmers to take up so extensively this branch of farming, and in this, I believe, you will all agree with me, it has made winter dairying not only a possibility but a success.

The silo furnishes us with succulent feed throughout the winter, without which, we know, it is impossible for cows to keep up their flow of milk. It is succulent food (in addition, of course, to a necessary quantity of the dry and concentrated fodder) that enables us to milk our cows ten months instead of seven months, as so many of us used to, not many years ago. Moreover, all this has been done very cheaply. The growth of the corn plant—the chief and king of all our coarse fodder plants—has afforded a very large amount of real cattle food per acre, Indeed, you will remember that in the charts I showed you last year, the corn plant, when properly grown, yielded the heaviest crop of all our fodder plants, and that while it cannot be fed exclusively (being too low in albuminoids), it may well form a large part of a nutritious ration.

The corn plant, then, and the silo are, and will be, inseparably connected with increased profits in mixed farming and the foundation and progress of our dairying industry.

But why do I associate the silo so closely with the growth and use of corn? Because the silo preserves the corn in a succulent condition. I have already mentioned the necessity of succulent food for the keeping up of the milk flow. I do not think that for this purpose corn stover is of equal value, not because its dry matter has been decomposed, but simply on account of its dry character.

It is not necessary for me to point out to practical men what they must have already proved—that the silo affords means for the preservation of a large quantity of food, conveniently and in a small compass, nor to remark, what all must have noticed, that there is less waste by this method, when properly conducted, than by drying the corn. But it may be well for me to state, as the result of experiments carefully and scientifically carried out—practical feeding trials—that the *dry matter in good ensilage is of equal value to the dry matter, weight for weight, in well preserved corn stover.* In addition to this, let me add, there is the increased benefit for milk production, arising from the ensiled corn being in a succulent condition. It has been shown that good ensilage, in addition to meal, makes an efficient and economical ration for fattening stock. It is a food that serves to maintain health, to increase the secretion of milk, to assist in the laying on of flesh and to increased profits to the feeder.

There are advocates of the silo who have been more "enthusiastic than wise," and who, from good motives undoubtedly, have exaggerated its claims and the benefits to be derived from its use. Let us, this morning, try to learn somewhat of the true state of affairs, remembering there are, as yet, many points to settle before the exact value of ensilage in the economy of the farm is ascertained. The solution of many of the problems here presented us, is hedged about with serious difficulties, and much practical and scientific work has yet to be done before we can clear up the many doubtful statements. The character of the ensilage depends, first, upon the condition of the corn when put into the silo; and, secondly, upon the extent to which it is subsequently preserved from the air.

Last year I showed you figures that proved that the increase of real cattle food in the corn from the tasselling stage to the "glazing" condition, was about 100 per cent.,

and that consequently corn for the silo or for preservation in the dry state, should not be cut before it reaches this latter stage of maturity. It will be unnecessary for me again to bring these figures to your notice, but I would further say that such corn is in the best condition for making sweet ensilage, and is more economical to handle, since a large part of its water has evaporated.

The silo should be a practically water-tight, air-tight compartment, well and strongly built. It should be constructed of dimensions to suit the requirements of the herd to be fed, and it will be found advantageous to feed at least two inches from the top every day. When the ensilage is removed daily to this depth, no fear of spoiling during use need be entertained. In view of this, it would be well for the greatest dimension of the silo to be "from top to bottom"—say in the proportion of 20 ft. deep to a superficial area of 12 ft. by 14 ft.

Upon an average, 1 cubic foot of ensilage will weigh 40 lb. If we allow between four and five tons of ensilage per cow for the winter, a silo of the above size would be large enough for twelve to fifteen cows.

The changes that the fodder undergoes in the silo are due to fermentation, and are always accompanied by a development of heat. This fermentation is brought about by microscopic organisms—plants known as bacteria—of which an innumerable host are always present in the air. For their growth and development they require organic matter, moisture, warmth and air. When all the conditions are favorable, they multiply with extraordinary rapidity. By this agency, the oxygen of the air combines with the carbon of the organic matter of the corn, and thereby much heat is generated. It is really a burning up of material, but without flame. These bacteria also convert in part the valuable, flesh-forming constituents, known as albuminoids into forms of less feeding value. Thus both the nitrogenous and non-nitrogenous portions of the ensilage suffer loss.

We see, then, that fermentation means loss or waste of real cattle food. Further, it is also true that the waste is in direct proportion to the degree of fermentation. Moreover, acid is developed by the growth and life functions of these microscopic plants, and this acidity is also produced in direct ratio to the fermentation. Our object is to have sweet ensilage and to retard as much as possible the formation of acid, which lowers the food value and destroys the healthfulness of the food.

Fermentation does not, as claimed by some, increase the digestibility of the fibre of the corn. Carefully and scientifically conducted experiments have proved this.

To obtain the best food, then, as well as to guard against loss, fermentation must be controlled and, as far as is practical, prevented. How can this be done?

The answer is, *in the exclusion of air*. This is the great fundamental and underlying principle to be worked to in the preservation of green fodder in the silo. In cutting off access to air, we largely decrease the number of bacteria that can prey upon the fodder, and at the same time we limit the amount of air that can be used in burning up the ensilage and the quantity of acid that can be produced.

It has been held by some that to get sweet ensilage a great heat must be generated in the silo; this heat destroying the germs that produce sour ensilage. I answer, that the heat so generated does not destroy their vitality, since it is not likely that any organisms would develop, as a life function, that degree of heat that would be inimical to its own existence. However, this high temperature is often of value, since it serves to settle the ensilage into a compact mass, as may be observed in the usual sinking that takes place. Air is thereby excluded from further permeating the mass and fermentation arrested. Absolute exclusion of the air from the silo is not, and perhaps never will be, practicable; but, nevertheless, we must work with that object in view, since science tells us that the less air, the less fermentation; and the less fermentation the less loss of feeding qualities. I show you here a small silo. It is a glass jar that was filled with corn three years ago. You may judge for yourselves of the quality and sweetness of the preserved fodder. (Here the jar and its contents were exhibited to the audience.) You notice that the amount of acid developed is very slight and that the fodder is in an excellent condition. The jar was filled to the top, and the cut corn pressed down firmly by a piece of wood held in the hand. The lid was then screwed on. It has not been kept in a cool place, nor excluded from light. No appreciable amount

of heat was generated, though undoubtedly some fermentation took place, due to the air, and its contained bacteria, that was in the interstices between the pieces of corn. There is no such thing as absolutely sweet ensilage, since we cannot exclude air and bacteria entirely from the silo.

Without wearying you with details, I have shown you then, what is to be aimed at, strived after, and the principles to be observed in ensiling corn or other green fodder. Let me briefly recapitulate.

1. Indian corn in the glazing condition contains about the right percentage of water to make good ensilage. If cut earlier, not only is much cattle food lost, but the corn contains too much water to produce sweet ensilage.

2. Fermentation must be avoided as far as possible, because, first, it does not increase the digestibility of the fodder; and, secondly, it means destruction or burning up of the non-nitrogenous portion and a lessening of the food value of the albuminoids or flesh-producers; and, thirdly, because it produces acid.

Fermentation, which is the first step towards decay, is directly dependent upon the presence of bacteria and oxygen—or, in other words, the extent to which the air permeates the mass in the silo. Fermentation and heat development mean waste, and therefore we should try to keep the corn in the silo as near as possible like the fresh fodder.

Finely cut, mature corn, rapid filling and close packing will give sweet ensilage that keeps as long as desired, for under these conditions but little fermentation can ensue.

Mr. GRAHAM: What would the effect have been on that corn if it had been frozen before it was put in?

Mr. SHUTT: The organic life would have been destroyed. It would decay and rot more readily. But if at once, after being touched by frost, it had been put in the silo and protected from the air I do not believe there would have been any loss. I know from those who have done so that they have got out a good material, and I see no reason why they should not.

Mr. GRAHAM: What kind of corn would you recommend?

Mr. SHUTT: We found with Pearce's Prolific and Longfellow that they did not come to the glazing condition, but only to the early milky stage when we had to cut them, and we did not get as good a food from those as from a smaller corn.

A VOICE: The earlier corns for the northern section are the better varieties. Plant your corn thin. Don't sow it broadcast. Plant it in drills at least 3½ feet apart and 10 inches apart in the running row, or in hills 18 inches apart.

A VOICE: How long would you leave it in the field after cutting?

THE PREVIOUS SPEAKER: I would put it in the silo at once.

The PRESIDENT: Some people leave it wilt for a day.

Mr. SHUTT: If the corn is at the proper condition for cutting I think it would hardly pay you to let it wilt.

## THE BEST COW FOR CANADA.

Mr. A. C. BURGESS, of Carleton Place, read a paper on the above subject, which he did not hand to the Secretary at the time, and which, unfortunately, he has been too ill to forward since. Mr. Burgess has been a successful breeder of Jersey cattle in the county of Lanark, and naturally dwelt upon the excellent qualities of that particular breed for dairy farming and especially for butter-making. His extempore interpolations were a very valuable part of his address. In these he emphasized the great advantages of feeding ensilage, and gave some timely advice as to the construction of a silo, advising the farmers not to be alarmed by the expensive rules which theorists laid down, but to build their silos cheaply and roughly so long as they were air-tight. Another good point which he brought forward was the necessity of farmers keeping accounts of their transactions, the same as men engaged in other lines of business have to do. As proof

of his right to speak authoritatively, in answer to an interrogation by the President Mr. Burgess said that his cows during the past year had netted him $1,000 over and above all expenses.

The PRESIDENT assured the Convention that Mr. Burgess had not overstated anything. When he took hold of his farm it was one of the poorest which could be found in Ontario, and now it is the best tilled farm in the whole of eastern Canada. He has the finest cattle and the best-kept cattle, and they are fed economically. He milks his cows 10½ months in the year and is making money out of them.

Hon. Mr. HOARD was called upon to criticize Mr. Burgess' paper. He said: I was much impressed with what Mr. Burgess said. He has an odd sort of air. Mr. Burgess is a man who will carry his own shape, like a square pin in a round hole, no matter where he is. But it is not with Mr. Burgess we have to deal, but with the practical work he has done. It is not the man who says things, but the things he saith with which we have to deal; it is not the "argufier" but the argument. Taking the man and his cattle he brings you the practical fact that these cattle have earned him so much. If they had not brought him a cent at all I presume he would have confessed it just the same. His advice to you on the silo was good. In my own town there are about 54 dairymen with silos, and they represent all kinds of people—Yankees, Germans, Irish and I cannot say what else; and I cannot say but that the silo fits one as well as another. In the town of Lake Mills, adjoining me, there are 70 silos. A few years ago an old German by the name of August Shultz was called up in one of our institute meetings to tell about the silo. He said: "I don't can speak the English very well, and so I do it to you," he said to me, "and you tell it to the people." "Well, what do you want to say?" "Vell, you tell them when I don't have the silo my cows generally shed their hairs when they go on the grass, and then the wind blow that hair away and the neighbors get it. But when I put in dot silo the cows shed the hair in the barn and I save dot hair and dot make a difference." Now, the real argument is that the cows thrive a good deal better. Mr. Burgess advised you to put up with a little silo. You can have one in any barn. A silo 12x14 feet and 18 feet deep contains 1,344 square feet. Now, then, there are 50 square feet allowed to the ton. Divide 1,300 square feet by 50 and you have a silo which contains 20 to 26 tons of silage. Suppose you want to produce milk for a creamery you will first start with a little thinking: How many cows will I want? and then you will add 10 or 15 more square feet to your silo than you think will be sufficient, because you may want to keep more cows. Then, build a silo that will hold five tons of silage for each cow. This will furnish a ration for 180 or 200 days per cow. Then I think silage will cost, in this section, in the neighborhood of $1 per ton. Two-and-a-half tons of good silage will equal the best ton of hay any man ever raised. Now, you see, with any building, the storage for silage would cost you far less than for hay. With a ton of silage you would have a cost of $2.50 per ton, including the cost of building, and with a ton of hay it would cost you $7. We do not realize how much waste there is in corn fodder when we have put it up in the ordinary way. Prof. Henry made some exhaustive experiments and found there was 40 per cent. of waste in the curing of corn. The silo saves that 40 per cent. The ordinary corn planted in rows 3½ feet apart and 8 to 10 inches apart in the rows, will give you from 12 to 20 tons of corn silage to the acre. It is rarely I have seen less than 12 tons to the acre; ordinarily not more than 15, and occassionally I have seen as high as 20 to 25 tons to the acre. If 2½ tons of corn silage be equivalent to 1 ton of hay, if you raise 15 tons of corn, you have the equivalent of 5 to 6 tons of hay. Then, again, you can hardly realize the difference in digestion in favor of feeding the green, succulent food. I can put it so that you will understand. If you are confronted with a Northern Spy apple and a dried apple you will prefer the former. The dried apple has got all the nutriment of a ripe apple, but do you like it as well? There are lots to learn in this business. A good many people view the silo like the old bachelor did about marriage. I used to say to a neighbor: "John, why don't you marry?" He would point to some one woman that had raised smash with some one man somewhere. So it is with some men in regard to the silo. They have heard of one silo that has not been successful and that is their ground for believing that the most of them are not successful.

## MARKETING OUR CREAMERY BUTTER.

Mr. J. H. Croil, Aultsville, was called upon to read the following paper:

One of the great advantages our creamery system of manufacturing butter has over the private dairy system is in marketing the butter. I am quite within the mark when I say that no matter how well our farmers can be educated to make butter, one-half the charge made for manufacturing can be secured in marketing, and a good portion of the other half in the extra amount of butter taken from the milk. While some farmers who have seen the fine work done by our Travelling Dairy, and with such apparent ease, have been tempted to try the manufacturing of their own butter; after one season's experience in marketing they have only been too glad to return to the only successful system of co-operative dairying. What would our cheese industry have been to-day had it been attempted to teach the farmers to make their own cheese? As well might they attempt to manufacture their own flour or tweeds, etc. And what kind of a reputation would our country have for these goods if they were manufactured at home? There is no doubt that the chief cause of our butter industry being as it is to-day is the fact of the farmers being able to make their own butter. Of course, in sections where creameries cannot be operated successfully, owing to the difficulty of securing a quantity of milk in one place at a reasonable cost, it is necessary to adopt the private dairy system as being better than none at all.

In the marketing of our creamery butter two things have to be done by our creameries:

1. Have it made and put up in packages to suit the market for which it is intended.
2. Market it while fresh and in its most valuable condition.

So far as the making of the butter for our local trade is concerned little need be said, as the butter-maker is so closely connected with the consumer that there is no difficulty in finding just how it is wanted, and it seems there is plenty of the finest butter made and put up in Canada to suit our best trade. What we have to provide for is our surplus or export stock of butter. From information that I have gathered from reliable men in the city of Montreal there is scarcely any butter exported that at the time it is shipped from Canada would suit our best city trade. Part of the butter is not made right and the balance becomes stale even before it leaves the country. Now, how can we expect to secure a good export trade with this class of stuff? When the butter is not made right, it is the duty and the work of the Creamery Association to have it done, and we must market enough of it weekly while fresh and in its best condition to encourage a trade for it.

It has been the rule to hold our surplus stock of butter for an advance in the price, and a rule which has been carried out almost without an exception. During this time the butter becomes stale, and its export value is lessened from one to three cents per pound, no matter how well kept. This looked-for advance, if it does come, is pretty well taken up in the depreciation in quality, shrinkage, charges for storage, interest, insurance, etc. I do not say that it would be advisable for our creameries to push all their butter on a very dull market at a price that would not pay their patrons, but I do say that the time has arrived when it should be the rule to sell our butter while fresh and in its very best condition, and the exception to hold it for a higher price.

The difficulty of securing a demand will first have to be overcome, and this can only be done by having a liberal supply of the finest creamery butter going forward regularly to the market. Owing to the effect of the heat on the quality in the summer months, great care is required in transporting it from our creameries to the market. With refrigerator cars, which can easily be had, there is no difficulty in having it placed alongside the steamships in Montreal in perfect condition. While the steamship companies seem willing to give it the best possible space on their steamers there seems to be no provision made for cold space while in transit across the Atlantic, either from our Canadian or United States ports. Possibly some arrangements might be made so that cold space, at a reasonable cost for regular shipments, might be secured.

With regular weekly shipments of our finest creamery butter arriving in England, though at first, until the trade there learn that they can depend on them, may not sell at

as high a price as should be obtained, eventually we will get as much and even more money than we do now and have the satisfaction of giving to the purchaser much better value and disposing of our butter as fast as we can make it.

While the system of making butter during the fall and spring from some of the poorest flavored milk we have, and forwarding this to England while fresh, may be all very well for our cheese factories, it will never put our finest creamery butter in the place in England it deserves. To make our creamery industry a success it must be kept entirely separate from the dairy and cheese factory business, as dairy butter is of a very different quality, and the cheese factory butter is only made for the accommodation of the cheese industry, from our poorest milk, and cannot be supplied regularly. (Applause).

## THE MANAGEMENT OF A CREAMERY.

Mr. Aaron Wenger was next introduced, and said: I am only posted as to the cream-gathering system. As to the claims made in favor of the separator system I have no practical experience. We have a lot of cream-gathering creameries in this country and they are doing good work as far as they go. There is one thing, however, to be said, and that is that we cannot operate our cream-gathering creameries longer than six months of the year. I intended to operate longer this year, but had to close on the 14th of November. The butter we made the last week was not equal to the ordinary good dairy butter brought into the store. Why should this be so when I was getting 5 cents to 10 cents per lb. more than the dairy butter was selling for in the stores? The fact was there was a new flavor got into the milk. I think it had a good deal of the stable flavor. It depreciated the market value of the butter and I had to quit for the sake of my reputation. I was sending it to Toronto and got back word: "What is the matter with your butter? stop shipping; we cannot sell." I wrote at once to "Take off my wrappers and sell the butter in the market for what you can; do not sell it as Ayton creamery butter." Possibly the centrifugal system will bring us out of that difficulty. However, some of us will have to continue the cream-gathering system in the meantime, from the fact that many of our farmers keep too small herds to enable us to adopt the other. The expense of adopting it would be too great on account of the small herds and the long distances we have to go to collect the milk. I would have to send out my teams in the morning and then send the skim milk back again, and it would take the teams until all hours in the night to get around. Then the milk could not be churned until the day after it was brought in, when the skim milk would be of no use, because skim milk to be of the greatest value must be sweet.

What we want to impress in our business is that we want a pure, sweet cream. Of course what we want is the shot-gun can. The milk should be put into that as soon after milking as possible. The can should be immersed in a box of water, the can having a cover over it, fastened with cleats. I advise my patrons to store ice in winter, because in real hot weather, unless ice is used, the water, instead of lowering the temperature of the milk, is raised in temperature itself to a point almost as high as that of the cream. You all know that in very warm weather the milk soon becomes sour and the butter wastes in milk that gets warmed in this way and remains in the milk. One of the speakers yesterday told you that cream which cost 20 cents a pound to produce, was not economically produced. I am very anxious that my patrons should make every cent that there is for them in the business. The better my patrons are pleased, the easier I can deal with them. Those who are making lots of money out of their milk are well satisfied. Those who are not making money are the ones who are dissatisfied, and it is not pleasant for me, or my patrons either, to have any dissatisfaction. We want whole, sweet cream when the cream gatherer calls for it.

We have cans 12 inches in diameter. When we get the cream the depth in the can is measured with a rule. It is then stirred up and a sample put into the test-bottle

and the cream brought to the creamery and churned. Then the test-bottle is put into hot water until the butter rises to the top in the form of oil, and that is measured. That is how we get our test. It is a simple matter.

There is another thing that I wish particularly to impress upon my patrons here. We are very subject to hot weather and drouth. Of course, in some seasons we experience this more than in others. Sometimes we get very hot weather, beginning in July and extending into September. Now, those are the months when the butter begins to creep up and when your cows naturally begin to lessen their yield of milk. Now, you want to keep up the yield of milk just as long as you can. How can you do that? I remember one year when there was a drouth, and in the case of those farmers who had a corn crop growing, the yield fell off very little. What I wish to impress upon my patrons is to plant corn for feeding when the pasture fails—half-an-acre or an acre or two acres, even if you do not use it all. If the grass is such that you do not require it all, it will come in in the fall for young cows.

A Voice: One kind of can is open at the top and lets the heat off, and, to a certain extent, any taint there may be in the milk. Would that not be better than the immersed can?

Mr. Wenger: I use the covered cans. I have never heard any complaint of any taint in my butter.

The Same Voice: I used one that was not covered. Mr Cummings shipped my butter to Toronto for me, and said it had a good flavor and brought a good price.

Mr. Wenger: I do not say there is anything wrong in your idea. I think one system may be as good as another. Of course, I believe the time is going to come when we will have to put in separators. In the meantime I see no object that is going to be served by doing so. The herds are small, and we have to go too far for our milk.

Hon. Mr. Hoard: About what is the average size of your herds?

Mr. Wenger: They are very small as a rule.

The President: You want to get the farmers to keep herds of twenty cows.

Hon. Mr. Hoard: I want to know if these farmers have ever kept dairy cows? Have they been in the cheese factory business?

Mr. Wenger: Well, we had one cheese factory, and farmers who left the creamery to go to it, came back to the creamery, showing that they consider the cream-gathering system at least as good as the cheese factory.

Hon. Mr. Hoard: Then, practically, this was not a butter district until you put up a creamery?

Mr. Wenger: Not until we put up a creamery thirteen years ago. I was in the retail business and we took in a tremendous lot of butter. We heard something of the creamery work, and began to talk it over. We saw a chance in this way of getting rid of this business of taking all kinds of butter in trade which we had been doing. We built a creamery. A man came up from Guelph and wanted to enter into partnership with us. We committed ourselves to him, and guaranteed to the farmers to pay them so much for their cream. After working for a time, and when we had about 1,000 lb. of butter on hand, the maker "skipped" away to Clifford with the butter and took the train, and when we went to the creamery next morning we found that butter, butter-maker and all had gone. We ran the creamery two years in this way. We ran the next season, but our Germans were not satisfied, and the creamery was closed up for about two years, when Mr. Moyer introduced the Cooley can. The patrons voted to pay each man alike according to the amount of cream they supplied. We saw that there was a general variation in the cream, and that the creamery would die out again. Since then we have had the oil test introduced, and things have been going on very nicely.

Mr Mark Sprague: I do not believe that the can with the strainer, or air compartment on the top is as good as the Cooley can for many reasons. With the closed can submerged in water, you have a circulation of cool temperature through the whole of the milk. With a can that is not submerged entirely, you only get a circulation under the water line. Another reason against the open can is that milk is a refuge for stink. With this can, being open, while the milk is cooling, it is always absorbing something.

Mr. Pearce: In regard to the silo, I do not think we can thresh that question out too

much. I would just say to you: Go home; make up your minds to buy some seed corns and build a silo, and next September fill it with this corn. After one winter's use of silage, there is not one of you but would build a silo every year if you had to do it. I think the only solution for the creamery business in this north country is to get in separators in connection with the Babcock tester.

## AUDITORS' REPORT.

BELLEVILLE, Feb. 3rd, 1893.

ONTARIO CREAMERIES' ASSOCIATION.

*Receipts—1892.*

| | |
|---|---|
| By balance on hand as per last audit | $604 72 |
| " membership fees | 53 00 |
| " Donation from T. J. Miller | 2 00 |
| " Government grant proceeds | 1,499 00 |
| " Balance due Treasurer | 165 43 |
| | $2,324 15 |

*Expenditures.*

| | |
|---|---|
| To Instructor, salary and expenses | $963 70 |
| " " attending butter and commercial ticket | 40 00 |
| " Butter prizes | 329 00 |
| " Medal | 25 00 |
| " Printing | 121 95 |
| " Executive and Board meetings and delegates | 495 90 |
| " Instructor's supplies | 34 70 |
| " Reporting balance '91 and part '92 | 96 00 |
| " Secretary, salary and expenses | 132 90 |
| " Treasurer, salary | 25 00 |
| " W. D. Hoard and expenses attending Convention | 60 00 |
| | $2,324 15 |

Audited and found correct as above. (Signed by J. R. FINKLE. H. E. FAIRFIELD.

## PRIZE LIST.

Following are the awards for butter exhibited in connection with the Convention:

CLASS I.

| | | |
|---|---|---|
| Prize 1. | C. Snitiker, Haysville | $20 00 |
| " 2. | C. Johnson & Son, Athens | 15 00 |
| " 3. | S. R. Brill, Teeswater | 10 00 |
| " 4. | Whitechurch Creamery, Whitechurch | 5 00 |
| " 5. | Halliday Bros., Chesley | 3 00 |
| | | $53 00 |

CLASS II.

| | | |
|---|---|---|
| Prize 1. | S. R. Brill, Teeswater | $20 00 |
| " 2. | Isaac Wenger, Ayton | 15 00 |
| " 3. | C. Snitiker, Haysville | 10 00 |
| " 4. | J. H. Croil, Aultsville | 5 00 |
| " 5. | Whitechurch Creamery, Whitechurch | 3 00 |
| | | $53 00 |

CLASS III.

| | | |
|---|---|---|
| Prize 1. | A. Wark, Wanstead | $20 00 |
| " 2. | Miller & Ferguson, Spencerville | 15 00 |
| " 3. | S. Hunter, Rockton | 10 00 |
| | | $45 00 |

## CLOSING PROCEEDINGS.

The PRESIDENT: This is the most agreeable Convention we have ever had. We have never had so many people who have steadily attended our Convention, even until five o'clock of the last afternoon. The purpose of our meeting was to educate the people of this vicinity in better dairy knowledge, so that they could put the information they had gained into daily practice. You have heard the addresses of the prominent men interested in the subject who have spoken. They have told you the kind of cow to keep, and how to stable her better than before. You have heard the talk about the nutritious food to give her. We have heard that it is impossible to make a fancy butter without the proper raw material to work on; and this milk can only be obtained from the best animal, kept in the best way and fed on nutritious food of the very best quality. In fact, everything connected with the business must be of the very best quality in order to have the finest results. Now, I am satisfied that this has been a successful Convention. I feel very much gratified with it, both from the information we have acquired and the prominent persons we have had here to educate us, and I hope that the good done will be felt for many years. I may say that the Convention last year was held in the heart of the oldest dairy section in Canada, where it is known they have made the most money out of their milk of any section in Canada. That Convention last year did more good than any we have ever had in the eastern section of Canada. The knowledge disseminated through that meeting seemed to be of the greatest importance and to have the sympathy of the people, and they went home instructed and determined to take hold of it. Governor Hoard showed you, in his address this afternoon, that 3,000 lb. of milk is no quantity to give, and unless we can get the product up to 5,000 lb. for every cow, and make a better product than in the past, the business will not be profitable to all classes of the people. I hope you will not go home and say, "We will not put any new ideas into practice; we absolutely decline to build a silo." The Indians, hundreds of years ago, knew that corn was the proper thing to grow. We ought to be more intelligent. We should build silos, keep a better class of cows, and more of them, and in such a way that they will be comfortable and profitable. The milk should be got either to a creamery or some first-class cheese factory and not manufactured on the farm at all. Our object should be to put our butter and cheese business a notch higher than it is to-day, because the people in the United States are pressing forward, and if we are to hold the position we have for another year or two, you will find we shall have to put more skill into everything connected with the dairy, in order to hold this grand position. Now, we want to do this; to keep our boys at home; to make ourselves happy and prosperous, and to make our families feel that we are making this business pay. We have a climate and soil and everything else to enable us to do this, if we will only put the best dairy knowledge into practice. We have had this Convention in different localities during the past eight years. It has been our good pleasure now to have had the pleasure of meeting in Harriston.

A hearty vote of thanks was then passed to the Mayor and citizens of Harriston for their hospitality and courtesy to the speakers and to the press.

This closed the proceedings. At a subsequent meeting of the directors, Belleville was chosen as the next place of meeting.

# III—DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO

# OFFICERS FOR 1893.

*President* - - - - - - - - - JOHN GEARY, London.

*1st Vice-President* - - - - - - - WM. MESSER, Bluevale.

*2nd Vice-President* - - - - - - - A. F. MACLAREN, Stratford

*Directors.*

Division No. 7.—JOHN PRAIN, Harriston.

Division No. 8.—HAROLD EAGLE, Attercliffe Station.

Division No. 9.—A. PATTULLO, Woodstock.

Division No. 10.—WM. DICKSON, Atwood.

Division No. 11.—Hon. THOS. BALLANTYNE, Stratford.

Division No. 12.—R. CLELAND, Listowel.

Division No. 13.—JOHN S. PEARCE, London.

*Honorary Secretary* - - - - - - - C. E. CHADWICK, Ingersoll.

*Secretary-Treasurer* - - - - - - - J. W. WHEATON, London.

*Auditors* - - - - - - - - - - JOHN ROBERTSON, Ingersoll.
J. A. NELLES, London.

*Representative to Industrial Exhibition, Toronto* - E. CASSWELL, London.

*Representatives to Western Fair, London* - - JOHN GEARY, London.
JOHN S. PEARCE, London.

*Representatives to Central Farmer's Institute, Toronto* Hon. T. BALLANTYNE, Stratford.
JOHN A. LEITCH, Glencoe.

# LIST OF MEMBERS.

FOR 1893.

| Name. | Post Office. | Name. | Post Office. |
|---|---|---|---|
| Abell, Israel | Dunkeld. | Bayne, Wm | Newbury. |
| Ashton, Rev. R | Brantford. | Booth, Geo. E | Ingersoll. |
| Archer, Alfred E | Elmvale. | Barr, S | Mossley. |
| Adams, John | Wyebridge. | Boston, Robert | Ferguson. |
| Augustine, A. W | Arkona. | Babb, Joseph | Carlingford. |
| Atkinson, Wm | Granthurst. | Blayney, John | Ellaton. |
| Anderson, Peter | Birnam. | Ballantyne, T. J | Listowel. |
| Alderson, Joseph | Kintore. | Brodie, John | Mapleton. |
| Arthur, John Lay | Kintore. | Ballantyne, Hon. Thos | Stratford. |
| Allison, John | Drumbo. | Ballantyne, R. M | Stratford. |
| Agur, E | Ingersoll. | Barr, Geo. H | Culloden. |
| Angus, W. D | Newry. | Brown, R. W | Ripley. |
| Anderson, A. D | Wyoming. | Bond, B | York. |
| Ackert, H. A | Ingersoll. | Barry, Peter | West Lorne. |
| Alderson, Thomas | Kintore. | Baker, Michael | Eagle. |
| Anderson, Wm | Woodstock. | Booker, Jno | Kohler. |
| Albright, Jacob | South Cayuga. | Butchart, J. M | Burgessville. |
| Anstice, Chas | Springford. | Bates, E | Mt. Elgin. |
| Atkin, W. T | Springfield. | Bishop, W. R | Beachville. |
| Boyle, John | Lynden. | Bodwell, E. G | Salford. |
| Boyle, W. R | Rockton. | Breen, P | Elginfield. |
| Bennett, J. A | Copetown. | Blake, M | Elginfield. |
| Bell, E. A | Crown Hill. | Broad, F | Southampton. |
| Burton, Ralph W | Crossland. | Baxter, John | Brownsville. |
| Barton, W. E. T | Elmvale. | Brown, Wm. E | Ostrander. |
| Bolton, John | Box 339 St. Marys. | Bodwell, J. V | Mt. Elgin. |
| Brown, L. D | Granthurst. | Bodwell, H | Mt. Elgin. |
| Brown, M. R | Appin. | Ballantyne, Jno | Pine River. |
| Bray, Jacob | Listowel. | Ballantyne, Wm | Avonton. |
| Banks, O. & R | Thamesford. | Bennett, David | Campbelltown. |
| Butler, James | Brantford. | Black, Hugh | Scotch Block. |
| Brown, W. W | Attercliffe Station. | Camp, Robert J | Weir. |
| Betler, Christian | Bismarck. | Cornell, J. H | St. George. |
| Bryan, Wm | Laurel. | Cotton, Noah | Crossland. |
| Bobier, A. Q | Exeter. | Casselman, Z | Wyebridge. |
| Blackmore, J. G | Richwood. | Copeland, H. W | Wyebridge. |
| Bristow, James | Bright. | Cole, Philip | Frome. |
| Brodie, George | Gladstone. | Cameron, Alex | Glencoe. |
| Blyth, J. W | Varney. | Colwell, Thos | Cairngorm. |
| Bell, A. T | Tavistock. | Chisholm, Walter | Appin. |
| Batchelor, B | Birnam. | Creighton, James | Nilestown. |
| Bothwell, Wm | Woodstock. | Clarke, Rev. W. F | Guelph. |
| Bonser, J. H | South Middleton. | Colwell, Wm | Drumbo. |
| Beam, J. F | Black Creek. | Chisholm, Thos. A | Dunkeld. |
| Bell, W. A | Dunkeld. | Crawford, James T | Walkerton. |
| Baskett, Miss S | London. | Cooper, J | Melbourne. |

List of Members—*Continued.*

| Name. | Post Office. | Name. | Post Office. |
|---|---|---|---|
| Campbell, J. E | Mayfair. | Dunn, T. W | Cass City, Mich. |
| Christie, Dr | Flesherton. | Dempsey, John | Fairview. |
| Cornett, F. H | Shelburne. | Dickson, Wm | Atwood. |
| Cober, N | Moorefield. | Donley, Geo | Gorrie. |
| Cousins, Geo | New Hamburg. | Dohn, Michael | South Cayuga. |
| Connolly, John | Ingersoll. | DeLong, G. V | Harrow. |
| Clark, A. O | Sparta. | Dewan, W. J | Lucan. |
| Coleridge, Wm | Greenside. | Daws, Samuel | Corinth. |
| Cuddy, R | Woodstock. | Dillon, James | Gilford. |
| Cranston, R. R | West Magdala. | Dundas, James | Putnam. |
| Copeland, J. W | Eastwood. | Edwards, A. J | Woodburn. |
| Corless, John | New Durham. | Echlin, B | Copetown. |
| Collyer, G. P | Box 396 London. | Elgie, Wm | Belton. |
| Carrigan, Philip | Arkona. | Edwards, W. H | Nilestown. |
| Chowen, Richard | Youngsville. | Elliott, James | Bluevale. |
| Clark, James | Vienna. | Elliott, George | Masonville. |
| Connolly, B. J | Ingersoll. | Elliott, Andrew | Pond Mills. |
| Chalmers, Alex | Monkton. | Ellis, Harvey | Wallace. |
| Caddy, Thomas | Ingersoll. | Ellis, Walter | Wallace. |
| Corsant, S | Birr. | Elliott, James | Tilsonburg. |
| Clark, Alex | Shakespeare. | Effingham, W. H | Crumlin. |
| Cleland, Robert | Listowel. | Eagle, Harold | Attercliffe Station. |
| Cuthbertson, John | Bright. | Elder, Peter | Clanbrassil. |
| Clark, C. A | Brooksdale. | Field, S | Copetown. |
| Connors, M | Eden Grove. | Faint, Wm | Elliott's Corners. |
| Cook, John W | Ingersoll. | Foster, Thos | London. |
| Chalmers, John W | Poole. | Fritch, W. A | Richwood. |
| Clarke, J. S | Warwick. | French, J. D | Wolverton. |
| Culp, J. W | South Cayuga. | Finley, Thos. E | Lanes. |
| Creighton, Robert | Caledonia. | Forrest, James | Lebanon. |
| Carmichael, Arch | West Lorne. | Forrest, Alex | Glen Allan. |
| Cooper, Wm | Mt. Elgin. | Fero, Walter | Eden. |
| Caverhill, Chas | Mt. Elgin. | Flynn, T. O | Kinkora. |
| Crawford, W. A | Avon. | Ford, W | Griffith's Corners. |
| Cuthbertson, N. C | Tilsonburg. | Fierheller, C. S | Hagersville. |
| Corsant, E | Arva. | Farrington, I. L | Norwich. |
| Cowan, Albert | Courtland. | Fluhrer, J. C | South Cayuga. |
| Chartron, Joseph jr | Riverside. | Fite, John H | Rainham. |
| Drury, Hon. Chas | Crown Hill. | Fearman, James | York. |
| Dow, James | Crossland. | Ferguson, John | Eagle. |
| Davidson, N | Arkona. | Freeman, D. B | West Lorne. |
| Duguid, Peter | Masonville. | Fewster, Wm | Mt. Elgin. |
| Dilts, Joseph C | Wellandport. | Freeman, S. A | Culloden. |
| Dillon, T. J | Mt. Elgin. | Ferguson, John | Ferguson. |
| Dickie, G | Lambeth. | Flach, Samuel | Lavender. |
| Dunn, Andrew | Ingersoll. | George, H | Crampton. |
| Davidson, James | Carlingford. | Gibson, Thos | Fordwich. |
| Dempsey, D. A | Stratford. | Gibson, James | Fordwich. |
| Downham | Innerkip. | Glass, James | Watford. |
| Dobbyn, Alex | Shetland. | Gibbons, Richard | Gilford. |
| Dorland, O | Tilsonburg. | Graham, James E | Dutton. |

List of Members—*Continued.*

| Name. | Post Office. | Name. | Post Office. |
|---|---|---|---|
| Ginther, Michael | Bismarck. | Humphrey, T. J | Straffordville. |
| Geary, John | London. | Hopkins, Benj | Brownsville. |
| Gray, Geo. Wm | Care E. J. Madden Kingston. | Hobbs, John | St. Ives. |
| | | Howard, Samuel | Gorrie. |
| Graham, R | Saurin. | Hurstfield, Wm | Stratford. |
| Gibson, Henry | Wyebridge. | Hastings, N | Camlachie. |
| Gregory, Gilbert | Medina. | Hunter, Ed | Woodstock. |
| Gall, James | Masonville. | Hopkins, E. N | Moosejaw, N. W. T. |
| Grieson, John | London. | Hollis, Wm | Atwood. |
| Grey, Allan | Hyde Park | Henderson, J. T | Pine River. |
| Gourley, H. G | Medina. | Hoover, Moses | Selkirk. |
| Gray, Rev. M. S | Laurel. | Hoover, Jacob | Selkirk. |
| Graves, James | Ingersoll. | Hoover, Edwin | Selkirk. |
| Goodham, G. E | Milverton. | Hoover, Benjamin | Selkirk. |
| Gray, James A | Atwood. | Hoover, Joel | Selkirk. |
| Gardiner, A. F | Hawkesbury. | Hoover, J. J | Selkirk. |
| Grieves, Thomas | Wyandotte. | Hoover, Peter | Selkirk. |
| Ginther, Ezra | Bismarck. | Henderson, Gavin | Perry Station. |
| Grieve, James F | Salford. | Hopkins, H. P | Crampton. |
| Griffith, A | Thorndale. | Harris, Herbert | Verschoyle. |
| Glass, Sheriff | London. | Hodgins, John | Arva. |
| Garvin, John | London. | Harrington, James | Granton. |
| Galloway, G | Ingersoll. | Hedge, Russel | Ferguson. |
| Grant, Samuel | Turin. | Haight, B. B | Cornell. |
| Gordier, Eli | Shetland. | Hatch, E. A | Eden. |
| Gayman, J | Byng. | Harriston, J. H | Tilsonburg. |
| Harvey, Wm | Elmvale. | Hagan, Nelson | Carholme. |
| Hunt, G | Elmvale. | Harrison, James | Kincardine. |
| Henry, Richard | Glen Willow. | Hanna, Alex | Byng. |
| Hume, George | Atwood. | Havill, A. E | Rainham. |
| Higgs, Reuben | London. | Honsberger, Isaac | South Cayuga. |
| Hodson, H. A | London. | Honsberger, Samuel | South Cayuga. |
| Hall, Gilbert | Arkona. | Isaac, Jno. R | 920 Dundas Street London. |
| Hall, Joseph | Arkona. | | |
| Hunt, E. S | Lambeth. | Ianson, Geo | Granton. |
| Horseman, Chas | Thamesford. | Impett, Thos | London West. |
| Hamilton, John | Listowel. | Jones, W. J | Vasey. |
| Haycock, James | Salford. | Jickling, John | Box 209 St. Marys. |
| Holmes, D. A | Richwood. | Jelly, Simon | Shelburne. |
| Heaslip, John L. jr | Wellandport. | Johnston, John | Laurel. |
| Hitchcock, D. S | Bismarck. | Johnston, Henry | Belfast. |
| Hargraves, John | Flesherton. | Jack, Donald | Newton. |
| Hockey, H | Dereham Centre. | Janes, J. A | Nilestown. |
| Hoover, J. M | Grantley, Que. | Johnston, D. P | Avonbank. |
| Hately, Geo | Brantford. | Jenkins, Chas | Corinth. |
| Henderson, Joseph | Birnam. | Johnston, Ed | Birr. |
| Hotson, J. L | Avonbank. | Johnston, R | Bright. |
| Harding, R. H | Thorndale. | Johnston, Abram | Walkerton. |
| Harris, A. M | Lakeview. | Jones, Wm | Mt. Elgin. |
| Houston, James | Ingersoll. | Jarnham, E. A | Straffordville. |
| Hopkins, J. E | Box 265 Brantford. | Johnson, Andrew | Box 100 Ripley. |

List of Members—*Continued.*

| Name. | Post Office. | Name. | Post Office. |
|---|---|---|---|
| Jackson, S. T | Ripley. | McKenzie, Jno. A | Kintore. |
| Jull, John | Ranelagh. | McLeod, Wm. F | Kintore. |
| King, Geo | Wyebridge. | Maynard, David | Drumbo. |
| Kennedy, Alex | Listowel. | McCrow, Robert | Princeton. |
| Killins, W. D | Lawrence. | Miller, James | Attercliffe. |
| Killington, Wm | Trowbridge. | Muir, W. J | Flesherton. |
| Knapton, Samuel | London. | Muir, Alex | Flesherton Station. |
| Knapton, Thos | Masonville. | McKie, John | Markdale. |
| Knapton, Nathan | Masonville. | McLaren, W. A | Avening. |
| Kennedy, Wm | Listowel. | McGillivray & Spears | Listowel. |
| Kneal, Wm | Holbrook. | May, Wm. M | Box 19 Lucknow. |
| Kneal, Fred | Holbrook. | McInnis, F. C | Lucknow. |
| Kinney, L. B | Drumbo. | McCrimmon, Sherman | Otterville. |
| King, John | Watford. | McNaughton, J | Norwich. |
| Kellum, Walter | Bervie. | McKenzie | Donegal. |
| Kelly, Robert | Bookton. | McNeil, J | Iona Station. |
| Kirchen, Wm | Eastwood. | McGuffin, J. A | Thorndale. |
| Kew, D | St. Marys. | McCallum, Hugh | Gladstone. |
| Knechtel, Moses | Tavistock. | McFarlane, Albert | Arva. |
| Kidd, Martin | Aylmer. | McIlvride, Wm | Varney. |
| Kinney, George | Winthrop. | McAlpine, W. J | Warwick. |
| Kline, F. E | Lakefield. | McEvan, Frank S | Verschoyle. |
| Laughton, Corwin | Osman. | MacLaren, James B | Ingersoll. |
| Lotan, Joseph | Appin. | McCabe, J. A | Harrington. |
| Lewis, Francis | Ballymote. | McKellar, D. N | Lakeside. |
| Laidlaw Wm. J | Attercliffe. | MacLaren, A. F | Stratford. |
| Luton, Chas | Lyons. | McMillan, D | Harrington. |
| Longden, W. C | Salford. | McLean, W. H | Crinan. |
| Laird, S. W | Stratford. | McCrae, John | Culloden. |
| Leitch, Dugald | Strathroy. | McDermott, James | Tiverton. |
| Leitch, Jno. A | Glencoe. | Morrison, James | Henfryn. |
| Lee, S. R | Hickson. | Moore, Geo | Kenilworth. |
| Lochhead, Wm | Atwood. | Millar, T. B | Burgoyne. |
| Maguire, J. H | Elmvale. | Morris, Wm | Avon. |
| McGrath, Thos | Saurin. | Mallory, T. C | Yarmouth Centre. |
| McCrae, N | Wyebridge. | Morrison, James T | Box 595 Woodstock. |
| Martin, Thos | Crossland. | Millar, J. F | North Bruce. |
| Meek, John | West Magdala. | Morrison, Miss M | Newry. |
| McArthur, Colin | Southwold. | Morrison, Miss A | Newry. |
| McMaster, Ferguson | St. Marys. | Muir, John B | Avonbank. |
| McLaren, Wm | St. Marys. | Miners, C. G | Tilsonburg. |
| McKim, John | Lakeside. | Millar, T. D | Ingersoll. |
| Martin, James | Granthurst. | Myers, Geo. E | Crampton. |
| McLarty, Malcolm | Glencoe. | Mitchell, S | Alvinston. |
| McFie, J. W | Appin. | McDowell, F | South Cayuga. |
| McLary, J. G | Nilestown. | Mitchell, Wm. B | Canfield. |
| Messer, Wm | Bluevale. | Murray, J. S | Cayuga. |
| Macdonald, C. C | Ex. Farm, Ottawa. | Martindale, Chester | York. |
| Murtagh, Mr | Masonville. | McLean, Dan | Rodney. |
| McKenzie, W. B | Thamesford. | Mehlenbacker, A | Kohler. |
| Mathews, Wm. H | Listowel. | Middleton, Isaac | Winger. |

List of Members—*Continued.*

| Name. | Post Office. | Name. | Post Office. |
|---|---|---|---|
| Mitchell, A | Mt. Elgin. | Ritchie, David | Elmvale. |
| McDermott, J | Fordwich. | Ritchie, John | Elmvale. |
| Mitchell, Neil | Ferguson. | Reynolds, J | Wyebridge. |
| McCallum, Alex | Ferguson. | Roberts, Thos | Sparta. |
| McMunn, Jno. D | Elliott. | Roxberger, Wm, Sr | Avonton. |
| McIllrath, James H | Bookton. | Reynolds, John | Wyebridge. |
| Morrison, John A | Mt. Elgin. | Rankin, C | Wyebridge. |
| McCurdy, F | Vienna. | Rumney, Matthew | Vasey. |
| McDonald, Jno. S | Ripley. | Ralph, Thos | Ballymote. |
| McDonald, Francis | Ripley. | Rice, Geo. C | West Oxford. |
| Mowder, John | Gilford. | Roberts, L. H | Peebles. |
| McNiven, Angus | Putnam. | Richardson, John | Laurel. |
| Newbigging, James | Listowel. | Ritchel, Henry | Gladstone. |
| Nimmo, Thos | Ripley. | Robertson, Robt | Ingersoll. |
| Nickel, G. H. | Gowanstown. | Robertson, John | Ingersoll. |
| Nutt, George | Salford. | Ruddick, J. A | Woodstock. |
| Norton, F. D | London. | Revell, C. A | St. Marys. |
| Nancekivell, Wm | Ingersoll. | Robert, John | Paris. |
| Nagle, John | Delaware. | Raby, Albert | Gladstone. |
| Noble, David | Walkerton. | Riesberry, John | Bright. |
| Nye, W. O | Avon. | Rusling, J. W | Boston. |
| Osmond, David | Holbrook. | Robertson, W | Islington. |
| Olmstead, Frank | Bismarck. | Richardson, B | Watford. |
| O'Neil, J. H | Harrietsville. | Rollings, Walter | Walsh. |
| Orme, Frank | 333 Talbot St. Lo'n. | Reavie, Edward | Verdun. |
| Ostrander, C. A | Iona Station. | Ruttle, Adam | Ripley. |
| O'Meara, Thos | Ingersoll. | Robertson, G. S | Lucknow. |
| Payne, T. H | Cairngorm. | Read, H | Cheapside. |
| Parker, R | Atwood. | Richardson, H. P | Kerwood. |
| Pinel, John | Wyton. | Richardson & Webster | St. Marys. |
| Patterson, F | Arkona. | Rosenbargo, Joseph | St. Marys. |
| Pearson, E. J | Kintore. | Reid, James A | Bright. |
| Peak, James | Gowanstown. | Rumble, John | Holbrook. |
| Pettit, Thomas | Kintore. | Richardson, L. E | Thedford. |
| Patterson, Wm | Moorefield. | Richardson, L. R | Strathroy. |
| Patterson, Thos. J | Moorefield. | Sifton, W. S | Strathroy. |
| Prouse, Thos | Dereham Centre. | Sage, Nelson | 578 York St. Lon'n. |
| Price, L. A | Mt. Elgin. | Stephens, Wm | London. |
| Pomeroy, Wm | Mitchell. | Scandrett, Jacob | Arva. |
| Pattullo, A | Woodstock. | Scandrett, Geo | London. |
| Parker, A. A | Rockford. | Spence, Briden | Cookstown. |
| Pow, Wm | Mt. Elgin. | Sutherland, J. W | Medina. |
| Parsons, John | Centralia. | Stevenson, Wm | Melbourne. |
| Perkins, J. W | Leesboro'. | Stewart, Alex | Flesherton. |
| Prain, John | Harriston. | Santell, Edward | Laurel. |
| Patterson, F | Thamesford. | Sellar, L. B | Laurel. |
| Pickard, A | St. Marys. | Smeltzer, Paul | Belfast. |
| Powell, James A | Box 300 St. Marys. | Scott, Francis | Lanes. |
| Paterson, James | New Durham. | Schneider, H. W | Glenallan. |
| Pelton, A. E | Courtice. | Sherman, W. L | Houghton Centre. |
| Ritchie, Thos | Elmvale. | Stacey, James | Carthage. |

List of Members—*Continued.*

| Name. | Post Office. | Name. | Post Office. |
|---|---|---|---|
| Scott, J. W | Sparta. | Toll, James | Kintore. |
| Sweet, W. H | Tilsonburg. | Tanner, Wm | Mayfair. |
| Stacey, Thomas | Fullarton. | Treleaven, W. J | Lanes. |
| Symister, R. A | Ingersoll. | Tennison, Philip | Lucknow. |
| Stacey, Wm | Fullarton. | Taylor, James J | Lucknow. |
| Smith, H | Mohawk. | Turner, E | Wyandotte. |
| Shaftley, N | Wellandport. | Taylor, F. C | Gorrie. |
| Southwick, H. A | Avonton. | Thompson, Wm | Birnam. |
| Stacey, John E | St. Marys. | Tucker, Chas | Newbury. |
| Stewart, Geo | Wellandport. | Travis, C. C | Eden. |
| Stillman, J. H | Ingersoll. | Thompson, J. L | Brooksdale. |
| Sillifant, Stanley | Birnam. | Talbot, J. L | Lucan. |
| Stocks, Wm | Dundalk. | Taylor, Jno. F | West Lorne. |
| Smith, L. E | Thorndale. | Timson, Wm | West Lorne. |
| Stinson, James | Thorndale. | Vansickle, B | Lynden. |
| Schrumm, Alf | Bismarck. | Vincent, Joseph M | Sparta. |
| Skuse, I. A. M | Ingersoll. | Vankleek, J | Listowel. |
| Stoner, Wm | Griffin's Corners. | Venning, Andrew E | Mossley. |
| Stratton, R. W | Staffordville. | Varden, F. W | Springford. |
| Stevens, H. B | Lambeth. | Wilson, Hugh E | Arkona. |
| Saul, J. T | Crumlin. | Walker, G. L | Arva. |
| Stevens, R. W | Lambeth. | Wievenhamer, Geo | Wallace. |
| Smith, Andrew D | Culloden. | Williams, Jno. J | Listowel. |
| Smith, S. A | Glanworth. | Woodward, R. B | Attercliffe Station. |
| Stone, Ed | Verschoyle. | Whale, W. T | Goldstone. |
| Stevely, Wm | London. | Waddell, Wm | Kinloss. |
| Symington, Wm | Camlachie. | Wilkinson, J. H | Verschoyle. |
| Stevenson, Wm | Britton. | White, Harry | Belfast. |
| Smuck, C. J | Tupperville. | Wallace, Samuel T | Mt. Forest. |
| Smith, C. W | Centralia. | Wilkinson, Emerson | Clifford, Mich. |
| Sutor, David | Darling Road. | Woods, Wm | Watford. |
| Spittal, John | York. | Wooley, J. H | Simcoe. |
| Senn, John | York. | Williams, J. F | Ingersoll. |
| Suttor, Matthias | Dunkeld. | Whitelaw, R | Woodstock. |
| Smith, D. T | Tilsonburg. | Wheaton, Joseph | Thorndale. |
| Swance, Jno | Tilsonburg. | Wilford, John | Brownsville. |
| Sanders, W. H | Tilsonburg. | Williams, John | Ingersoll. |
| Smith, C. E | Brownsville. | Webb, Lewis S | Caistorville. |
| Soper, Chas | Guysboro'. | Wills, John G | Winger. |
| Sawyer, Thos | Fennells. | Wills, Henry | Winger. |
| Traver, Lewis | Marshville. | Waring, Edward | Newark. |
| Thomas, W. S | Holbrook. | Weber, John | Brotherston. |
| Toohey, James | Lucan. | Wilson, Thos. J | Ferguson. |
| Teall, Jno. H | Vienna. | Whaley, Wm. J | Dereham Centre. |
| Thomson, Wm. R | Ostrander. | Walters, R. A | Cheapside. |
| Tifford, C. A | Bookton. | Walden, Benj | Maple Grove. |
| Turner, D | West Magdala. | Welsh, Thos | Lurgan. |
| Thompson, A. J | Belton. | Waddell, James | Kinloss. |
| Townsend, Jno. A | Atwood. | Young, T. E | Strathroy. |
| Tackaberry, N | 362 Oxford St. Lo'n. | Young, R | Thamesford. |
| Thompson, Wm. jr | Arkona. | Young, A | Princeton. |
| Tindall, Wm. A | Badjeros. | Yoder, John | Springfield. |

# SIXTEENTH ANNUAL CONVENTION

OF THE

# DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO.

*The Honorable the Minister of Agriculture :*

SIR,—I have the honor to submit to you a report of the work of the Dairymen s Association of Western Ontario for the year 1892.

During the year an increasing interest in dairying in Western Ontario has been awakened, and the low price of wheat and other grains is turning the attention of the farmer more to keeping cows and stock of all kinds on the farm as a more profitable method of farming than the present one of continually growing and selling the grain off the farm. This is a good omen, and portends well for the future Ontario farmer. In a province like Ontario, so well adapted for all kinds of dairy farming, if the farmer would give his attention to keeping as many cows as possible, giving them the best of care, supplying them with suitable food, and would patronize the creamery during the winter and the cheese factory during the summer, there is no doubt that his business would be more profitable, his income larger and his farm in better condition, and more capable of producing than under the present system of farming.

The price of cheese, on an average, during the past season, notwithstanding the fact that our export of cheese was 200,000 boxes greater than any former year, has been considerably higher than for many years past. There appears to be an increasing demand in Great Britain for Canadian cheese and butter. At the present time there seems to be no reason to believe that, for some time to come, the price of our dairy products will be much lower than it has been during the past season if we continue to send forward goods of the very best quality. The Ontario dairymen seem to be alive to their own interests in this regard, and are endeavoring not only to increase the quantity but also to improve the quality of their dairy products. Although every dairyman feels proud of the reputation of our Canadian cheese at the present time, yet the indications are that during the next few years there will be a marked improvement in the quality of our cheese and butter products.

During the past year the work of the Association has not been as extensive as heretofore. This has been entirely due to the lack of sufficient funds to carry on the work. In 1891 four instructors and inspectors were employed by the Association to instruct the cheese-makers, and inspect the milk sent to the cheese factories, and a dairy school was also maintained at Tavistock for the practical education of cheese-makers. At the end of that year the Association was in debt, and consequently during the season of 1892 only one inspector and instructor could be employed in connection with the dairy school. The inspector's services were in great demand and much good resulted from his visits to the factories during the past season. There is great need of further inspection and instruction, and the present indications are that during the incoming season the services of competent inspectors and instructors will be greatly needed. The operation of a first-class dairy school in the west would be of untold value in educating and training our cheese and butter-makers in the best methods of examining and handling milk and of making a first-class article of cheese and butter.

The Association has lately inaugurated a new line of work, and is endeavoring to reach the patrons of cheese factories and discuss with them practical questions relating to the production of cheese and butter. A new Secretary, who is a practical dairyman, has been appointed to give his whole time to the work of the Association. Besides looking after the office work of the Association he will attend as many annual meetings of cheese factories and meetings of patrons as possible, and give practical addresses on the production and care of milk for cheese-making, winter-dairying, the paying for milk according to butter-fat, the proper disposal of the whey, the improvement of factory buildings, etc. Already the new Secretary has attended 36 of such meetings, and addressed 270 patrons of cheese factories and farmers in different parts of Western Ontario, besides 15 factory meetings that were attended by T. B. Millar (Inspector). This new line of work is meeting with special favor from dairymen, and already the demand for attendance at meetings is increasing to such a degree that it is impossible for one person to be present at all of them.

We are glad to report a large increase in the membership of the Association, which now numbers upwards of 500.

The Sixteenth Annual Convention of the Association was held in the City of London on January 10th, 11th and 12th, 1893, and, notwithstanding the severe snow storm and severe cold weather that came on at the time, there was a large representation of dairymen from all over Western Ontario. Accurate reports of the addreses delivered and the discussions that took place are given in this Report.

Owing to the increasing interest in dairying and the demand for information on practical dairy topics, four local conventions under the auspices of the Association, will be held during the present winter at points in the west where instruction is most needed. The holding of local conventions will doubtless form an important part of the Association's work in the future, and no doubt much good will result from the information given by practical and competent men.

The Board of Directors of the Association have great reason to be thankful to you and your Department for the liberal grants received, and for your kindness in assisting the work of the Association in every way that lay in your power.

The future work of the Association is commended to you as one tending to improve the quality and increase the quantity of our western dairy products. and to educate the farmer in a line of farming that will greately improve his present condition, and make his business a more profitable one.

All of which is respectfully submitted.

London, February, 1893.

J. W. WHEATON,
*Secretary.*

# SIXTEENTH ANNUAL CONVENTION

OF THE

# DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO.

The annual meeting of the Association was held at London, the first session being held on Tuesday, January 10th, 1893. The meeting opened at two p.m., Mr. John Geary, President, in the chair.

## PRESIDENT'S ADDRESS.

It affords me great pleasure to meet you to-day, but I am sorry we have had such a bad start in the matter of weather. I know a great many would have been present to day but for the storm. I miss a great many who told me they would be here. I am glad to tell you that we have with us to-day Hon. John Dryden, Minister of Agriculture for the Province of Ontario. I am sure it is quite a compliment to us, considering the arduous duties that he has to perform, that he should come through this storm to meet us. I shall not address you at length, for we have a very extensive programme. Since we met last year in Brantford, your Board have deemed it wise, in the interest of the Association and of the dairymen of the country, to make some change in the management of our business. We have all found a difficulty in getting those whom we most want to reach —the patrons of the cheese factories—to turn out to those conventions. It was thought desirable to appoint a Secretary, a young man with sufficient energy to travel amongst the people during the time he can spare from his other work. I am glad to say that the factories throughout the territory are availing themselves of his services, in fact, if we could multiply him by five or six, he could not more than do the work cut out for him. He is ready to go to meetings and address the patrons. He has already attended some sixteen or seventeen meetings during the present fall and winter, and, except in one or two instances, the meetings have been attended by almost all the patrons of the factories. I think the work which has been outlined for him is going to be of great benefit to the patrons of factories and to farmers generally. Wherever he has gone they have all seemed to be desirous of information as to the best means of producing milk and taking care of it and bringing it to the factories. Of course it is useless to expect a cheese-maker to make the article we want for the British markets unless the people themselves take an interest in their work and furnish good raw material. The subjects to be discussed at this Convention are very numerous. Hon. John Dryden will address you on the future work of the dairymen, a very important subject, and Dr. Van Slike, of Geneva, New York, will talk on the fat in milk in relation to cheese, and will deal with the question of payment for milk by the fat it contains. I understand that many of the factories intend paying for their milk in that way next summer, and I think it is a move in the right direction. Considering the interest taken by the Ontario and Dominion Governments in this work, and the experiments they have made, I think our position is going to be very materially improved in the future. I for one, as a farmer and dairyman, feel deeply grateful to both Governments for the interest they take and for the work they do in promoting the welfare of the dairymen. The Ontario Government has

very liberally assisted us in the employment of instructors and inspectors, in establishing a dairy school, and generally in promoting the interests of the Association and the dairymen. Inspectors were engaged during the whole summer, in fact they have more work than they can do, and I think there are a great many gentlemen here to-day who know the good these inspectors have done in stamping out the practice of sending diluted or skimmed milk to the factories. The result has been very beneficial in improving the quality of the product, and not the quality only but also in increasing the quantity of cheese made from the milk. I am sorry to say that during the past year we have not been able to continue in our employ so many instructors and inspectors as formerly, the reason being that we had not the funds. We have only been able to employ one inspector and keep up the dairy school. We have made a change in this respect, having lowered the fees of membership in this section from $1.00 to 50 cents, believing that we might thus possibly induce a greater number of people to become members and so increase our funds. This is done with a view particularly to inducing the farmers of the country to join. I feel that they ought to take a more active interest in supporting their own Association, for this Association is one that belongs entirely to them. The men who founded this Association have done wonderful work for this country and have been the means of increasing this business in twenty-five years so that now it amounts to over $11,000,000 per year, and still increasing. I believe that within the next ten years it will be quite as easy to double that eleven millions as to bring it from the original position up to its present figure. It is easy to do it if the people will take an interest, as they ought to do, in their own Association. The Board of Directors have never asked for anything, they do not expect anything; they work for the promotion of the dairy interest because they feel a pride in the business. I shall not take up longer time but shall now call on Mr. Dryden, to whom you always listen with pleasure.

## ADDRESS BY THE MINISTER OF AGRICULTURE.

Hon. John Dryden: Mr. President and gentlemen: Unfortunately for myself I did not expect to be called upon at so early a stage of the proceedings. Had I been permitted to listen to the various addresses, papers and discussions which are to follow, I should, no doubt, have a good many thoughts that would have been inspiring and helpful in my address. I suppose I have been put forward on the principle which we have learned from experience that the motive power should be before and not behind. I happen to represent the Ontario Government and Legislature on this occasion. You remember the old race track adage, "Money makes the mare go." I know the President will agree with me when I say that it takes some of the same material to make a dairymen's association go. Now, it is from the Government and Legislature, I apprehend, that you get the motive power which helps to make this Association a success. And if at this early stage of my remarks I say that the money entrusted to the care of this Association has been well spent and that it has been so invested as to bring returns to the people of the province a thousandfold, and if I am able to say further that so long as the need exists the same supply will be provided from the same source, perhaps I shall have done something toward giving life and vigor and enthusiasm not only to this meeting but to your entire work. I want to congratulate you, Mr. President and members of this Association, upon the position the Association has attained and the work it has done in the past. I want further to say, while speaking of this, that my Department regards what we call the Dairy Report, which consists of the reports of this Association and the sister Association in the east and also the Creameries' Association, as one of the most valuable published on this continent in 1892. Editors and others in the old land have studied it and they find in it ample material for numerous editorials which are constantly appearing in the leading papers of Britain. Some of these have come to my office and I find that they frequently use our statistics. A recent issue of the *London Field* contained some very strong expressions in commendation of these reports.

Not long ago, in acknowledging the receipt of the Report of my Department, Professor Henry, Director of the Wisconsin Agricultural Experiment Station, used very similar language. He said: "It contains a vast fund of valuable information, and I have already found occasion to consult it. The position that Canada has taken with regard to agricultural advancement is a constant stimulus to us on this side. We regard you as leaders in many directions, and, with the energies displayed by your people, I am sure that position will be held for a long time to come."

These are encouraging words to which I thought your attention should be called, because we are apt sometimes to regard lightly the work in our country, and on the principle that far off fields look green, to think that others are doing better work than we are. I apprehend there is no association on this continent or in the British Empire that is doing better work than this and the sister associations of the Province. Further there has never before been in this country such enthusiasm in connection with dairy matters as there is to-day In my own county of Ontario we have had at least eight meetings within twelve months, the object of which was to induce the farmers to go into co-operative dairying. It may be a factory will not be erected in every place where a meeting was held, but the result will be to add somewhat to the number of our factories. What is true of Ontario is true to a very large extent of the other counties. What has brought about this increased enthusiasm in regard to dairy matters? No doubt there is a variety of causes all tending in the same direction. When one thinks of the poor crops and the ridiculously low prices which grain realizes in these days, he will see that that is enough to set the people thinking what they can do to improve their situation. Farmers have been told to turn their attention to stock-raising. But the returns from stock-raising also are uncertain. Contrast the uncertainty of results in stock-raising with the steady, regular results in dairying and you will see one reason why our people pay more attention to dairying than they formerly did. But you will agree with me when I say that the first and most important influence has been that of this and the sister associations in Ontario. I believe that the history of dairying in our province will show that up to 1864 you had made very little progress. I believe it was in that year that co-operative dairying was started in this country. Two or three years later this Association was formed. If you examine the figures as I have done you will find that in 1861 the quantity of cheese produced was a little over two and a-half million pounds. In 1871, four years after the organization of this Association, there had been brought into existence over three hundred factories situated in different parts of the Province, producing an annual supply of about sixteen million pounds of cheese. This increase has gone on until in 1891, from the best calculations I can make, the factories in Ontario produced fully eighty-two million pounds of cheese. In these thirty years our population has increased only about two and a-half times, while the cheese production has increased thirty-six times. I apprehend that it is not too much to say that all this increase would not have been brought about but for the work of this Association. Some of the men are still living amongst you who took the foremost part in forming this Association. I know it is customary to wait until a man dies to speak loudly in his praise. But I think now and here we ought to give the praise to the men who inaugurated this Association and were so active and energetic in carrying it forward. I was speaking about these Reports. I value them myself; I am glad to get them so I may have the privilege of scattering them over the country. I am glad to send forth that information, and it would be impossible for me to obtain it except through the self-sacrificing and laudable efforts of the gentlemen who promote these associations. Another element that has tended to bring about the enthusiasm in dairying matters is the dissemination of these Reports among the people, many of whom do not come to these meetings. Your President has said that difficulty had been experienced in bringing the patrons of the various factories together at these meetings. The effort is to keep up the quality of the product, but this cannot be done unless you reach the patrons—those who control the raw material. The difficulty in your meetings, as in the meetings of the farmers' institutes all over the country, is that while the best farmers are sure to be there—the men who do not need instruction so much—those who

could be benefited are the very people who are not present at these gatherings. The President has told you that if you do not become members of the Association you cannot receive the Report. He has not been down to my Department, otherwise he would not say that. You remember that some two years ago I adopted a new method with a view to infusing new interest in the farmers' institutes, and increasing the membership. I sent out a circular encouraging the addition of new members, and proposing, as an inducement to send to the address of each individual member all of the bulletins of the Agricultural College and several of our reports. One of the reports sent out has been the Dairy Report; and so it comes to pass that from my Department we have been sending these reports to ten or fifteen thousand farmers, members of these institutes all over the province. It is not too much to say that these people cannot study the Report without getting up enthusiasm in dairy matters. The farmer's attention is prominently drawn to them in reading these addresses, papers and discussions, so that he must have a deeper interest in dairying than ever before. Then I know you will let me say that perhaps a still stronger element in increasing this enthusiasm has been the educational influence upon the people of the country of what is known as the Travelling Dairy School. Of course you are all welcome to your own opinion. I have been a little astonished to find in connection with some of these associations gentlemen who were entirely opposed to what I was undertaking in connection with these dairy schools. But I am sure the day is not far distant when every one of these gentlemen will see that I was right and they were wrong. I am sure you will see the interest in dairying incresing from year to year owing to the work of these schools. Primarily the object was to teach the people to make better butter. But that is not the sole object. The breeds of cattle, how to care for them and how to care for the product was constantly in discussion, and you cannot get two or three hundred men with their wives and daughters gathered together to discuss these matters without inducing thought, without causing them to take an interest in more than the question of butter-making. It stimulates enthusiasm and causes enquiry and discussion, because they see they have but to inform themselves in order to be able to increase their profits. By inducing them to make better butter in their homes you have taken the first step toward teaching them how to make better butter under the co-operative system. The results are better than we have ever before reached in connection with our dairying indsutry. The first and most important, which has already been referred to, is the fact that we are increasing the wealth of the people of Ontario by $12,000,000 annually. It is not so very long ago when our export did not exceed a million dollars, and the circulation of the large sum I have referred to is the direct result of the efforts put forth in dairy matters. These results are not spasmodic; they do not mean a large return one year and nothing the next. The man who is trying to grow grain finds that is the case with him, aud the only way he can show a profit is by putting five or six years together. None of us are able to say what distress has been relieved, what depression in agriculture has been saved by our people going so largely into dairying. The results in dairying are more entirely under the control of the intelligent, skilful producer than in connection with anything else in agricultural industry. You cannot control a crop of wheat no matter what you do. You may do everything exactly as it ought to be done and yet you may come out with no crop at all. It is not so in connection with dairying. There is another reason in favor of it. While we are taking out of the soil of this country crops of wheat to send abroad we are destroying the fertility of the soil, but the effect of dairying is not to destroy but to increase fertility. We hear a good deal about the soil being run out or run down as the case may be. In some parts of the country this may be true. I suppose it was properly described by the old farmer I read of, in replying to the clergymen. He said to the old farmer, "Your soil is rather unproductive." "Yes, sir," said the farmer, "it is exactly like self-righteousness—the more you have of it the poorer you are." I think we use the wrong term. The soil is not so much run out as overrun—overrun with weeds which exhaust the productive elements of the soil. Our farmers do not seem to see that these weeds take up what they ought to have in their crops. The soil is run out because it lacks the proper tillage. Forty years ago a little five acre lot

opposite one of my father's fields was in possession of an old man and woman who had had it for some years and who lived in the little log house which was built in the early days. They made up their minds they would not stay any longer, but they would leave and go to live with some friend. The lot was rented to one of their relatives living four or five miles distant. These people came in the spring and put in the seed, then came in the fall and took away the crop. This went on year after year, the crop growing less and less. In the field just opposite the crop was a good one, and the man, meeting my father one day, remarked how strange it was that there should be such difference in soils so short a distance apart. "Your land," he said, "is excellent and produces a splendid crop, while this piece not four rods away is not worth tilling. I scarcely get the seed from it. I am going to throw it up" He did throw it up, and it was left on the old lady's hands, her husband having died in the meantime. She asked my father to rent the land, but he said he did not want it that he had plenty. But the other insisted and at last my father consented to take it at $12.50 a year. The following season that land had the Sabbath rest that it ought to have had long before. There was no crop, weeds or anything else. It was plowed five times and was given a heavy coating of manure, and in the following season the crop on that lot was such the people wondered at it, and it put a reaping machine to a severe test to take it off. The man who owned it before could not make anything out of it, but in the forty years since—and I have been there all the time—I believe that every single season there has been a good crop. There is plenty of land that could be brought up to a state of fertility in the same way.

I have no hesitation in asserting that one of the best things that our farmers can do is to give greater attention than they have given to dairying. What will it do for them? It will do two things. It will furnish the manure necessary to bring the soil back to its original fertility, and it will furnish them with the capital which will enable them to give the land a better tillage. Now, is there any danger, do you think, of overdoing this thing? I am free to confess, Mr. President, as I look at the increased interest taken in dairying matters in our country and the United States and in European countries, I had begun to think the same thing—that possibly we might be overdoing it. I remember that twenty-five years ago, as is recorded in the last Report of this Association, Mr. Willard made the same statement and used the same language and showed pretty clearly, as he thought, that if we went on this business would be overdone. And when I look at the enormous increase in the production in this and other countries, when I find that the British importation of cheese has increased in the last ten years fully fifty million pounds, and when I find that the exports from the United States to Great Britain have decreased by a similar quantity it would seem to make an opening in the English market for 100,000,000 of pounds more to-day than there was ten years ago. If I am right in that, it is one reason for believing that my doubts and suspicions in this matter are not well founded. There is another thing. I think our own home market ought to be cultivated. (Applause.) I am glad to see that you agree with me; I think it is too bad that more attention has not been paid to it. I find that on looking up the returns that Great Britain imports fully six pounds of cheese per head of the population. Of course that is not the total consumption, because they have the product of their own factories as well. I do not think it would be wrong to add another pound at any rate. Call it seven pounds per head of the British population. Why should we not consume as much cheese per head as they do? But we do not do it by a long way. If we did, you would find here in Canada a market for at least thirty-five or forty millions of pounds. How much do we consume? Not more than twelve, or at the utmost fourteen millions of pounds a year. How shall we cultivate this market? Not by dumping on it all the inferior stuff, the rags and scraps from the factories. That is what is done. I was talking to a gentleman once, manager of a cheese factory. He had been examining some cheese of a very poor quality. I asked, "What do you do with it?" He said, "We send it down to Toronto, and from Toronto it is distributed all over the country." I remember not so very long ago I was taking dinner with other gentlemen at one of the hotels. We

saw on the bill of fare "Ballantyne's Superior," and ordered some of this cheese. Both of us declared it was the finest cheese we had ever eaten anywhere. If cheese equally good could be got in this country and put on my table, I am sure my family would soon consume ten times as much as they do now. My good wife was down to Whitby, our county town, last Saturday. She hunted round for cheese and brought back a piece of three or four pounds. I will guarantee it will last our family for two months and we have quite a good family, too. People would buy more cheese if they could get it good. Now, how are we to bring that about? It is with cheese as it is with butter. We have got the people educated up to good butter. Go into any good club or decent hotel and they dare not put bad butter before the people; the people will not have it. Give the people a chance to know what good cheese is, and they won't have the other. I do not know what you are to do with the bad cheese—send it to Russia or somewhere like that, I suppose. It won't be sent to Toronto at all events. Our home market is worth cultivating, and I hope the members of this Association will see to it that the people will have a chance to know the value of a better quality of cheese. If the home market were cultivated, considering the increased demand elsewhere, I believe there is no immediate danger of over-production. So we are booming this dairying business in this country; our Government especially is booming it; and, so far as my Department is concerned—and I think I can say the same for the Government generally—we propose that it shall continue to boom. I think there are some things a Government ought not to do for the people—that they ought to let the people do themselves. But I think also there are other things the Government ought to do and which the people have a right to demand at their hands. If a number of gentlemen propose to put up a creamery or cheese factory, I do not think the Government ought to pay half the funds for it. That would be an interference with private enterprise. But the Government may show them how to do it, and then leave it to the people to carry on the enterprise if they wish. I think the Government ought to provide the necessary instruction and the necessary information which will enable men to do their best at the work they undertake, no matter what it is. We have been doing that in connection with other matters. When a man wants to be a doctor he finds a school all ready to teach him; when a man wants to be a lawyer there is a school for him. But do you know I was quite shocked when I was made to think and see that there was no place in Ontario or in the Dominion of Canada where a young man who wanted to get information about cheese-making could be taught. He had to go to the United States. We provided a special course of instruction in this line in the Agricultural College, so that there should be no need for our young people to go to Wisconsin to get all the information they wanted about these matters. I want to tell you another thing, we propose to make this school one of the best on this continent, or in the world if you like. (Applause.) We propose to provide technical instruction as well as practical. I do not think the one is complete without the other. I am certain that in the near future you are going to have a strong demand for efficient cheese-makers and butter-makers all over this country. We propose to try to supply this demand, and we think that is one of the legitimate functions of Government. To show you how much need there is for a school of this kind, I have only to tell you that we thought we were starting on a pretty big scale when we provided fifty chairs in our dairy schoolroom for the accommodation of students. I was afraid we would not have one-half enough to fill those chairs, and urged President Mills to take every means to get as many students as possible. What was my surprise when, two months before the school opened, we had eighty applicants for those fifty chairs. I am beginning to be troubled now because it seems to be a favor to be entered as a student, and men are beginning to pull wires and use political influence on behalf of those for whom they desire to secure instruction. We will have to treat everybody alike; we cannot make any distinction. If people will have patience, we will provide all the accommodation required, because it will not do to have one hundred men seeking admission to the school, and to have accommodation for only fifty. I will not detain you longer. I want to say merely, and I think you will agree with me, that the Government of Ontario have stood by the dairying industry in the past, and in this, as in other matters, we can only take the past and the present

as an indication of what will be done in the future. Whether I am the head of the Department or whether another takes the place I now hold, whoever controls the affairs of the Province, this interest is so important that its welfare must be well provided for.

The PRESIDENT: I am sure we have been very much interested in Mr. Dryden's remarks. In fact I am quite cheered and encouraged by the assurances we have of assistance to be given in the future as in the past to the dairy interest. One remark he made which I think I can show you is well justified by the facts. He spoke of increasing the home consumption of our product of cheese. I commenced a factory on my own farm ten years ago. At that time the patrons of my factory did not consume five hundred pounds of cheese in a year all told. The first two years of my experience there led me to inquire why so small a quantity was used. I know that I am speaking now to cheese-makers, and I hope they will take the lesson I learned to heart. I found that if the cheese-maker made a mistake and turned out a lot of inferior cheese, that cheese went to the patrons. As soon as I became aware of what was being done I adopted a different system. I told the cheese-maker that I did not think the best cheese that could be made in my factory was any too good for my patrons. The result is that they consume now between two and three tons of cheese a year. What is applicable to my part of the country is applicable to the whole Dominion, and if the plan I have adopted is adopted elsewhere we will not have so much cheese to export.

Mr. CASSWELL: I was very much pleased to hear what Mr. Dryden had to say, and only regret that so many who would have been glad to hear him are compelled to be absent. It is a deplorable fact that the home consumption has been to a great extent ruined by the policy of the factorymen and salesmen themselves; but I am glad to say that since the factories have had the opportunity of getting instruction from the inspectors there are not so many culled cheese as there used to be, for what destroyed the home consumption was the sending of the culls to Toronto and other cities instead of letting them go to England and sell for what they would bring as culls. There is a price to be got in England for anything you send there, no matter what. I am satisfied that the consumption in Canada could be increased ten times over if the poor cheese was sent abroad instead of being sold at home. The American export has fallen very much, and I remember what Mr. Farrington, who started this industry, said. He said: "You are all wrong; encourage home consumption and you will increase the consumption of cheese more than by carrying on an export business. The reason for the falling off in the American export is not that they are making less cheese, but that they are selling more at home. You will notice that in the fall when the September cheese is coming in the market will rise half a cent or so. This is because of the increased demand for home consumption. There are men in New York, Buffalo, Baltimore and Boston who are ready to buy best the cheese no matter what it costs." With regard to the Travelling Dairy, I do not know much myself, but many whom I have met at different points approve it, and two gentlemen in London well up in the business told me there was no question that the Travelling Dairy had done more good in the last two years than any other institution in connection with the business. With regard to booming the industry, there is perhaps no man who knows more about this than I do. I was appointed to go to Ottawa to get money to help us make an exhibit at the Centennial Exhibition. They asked us how much we wanted, and when we told them they gave it to us. I remember that when we were in Ottawa we spoke to the Hon. George Brown, and when he asked us what we wanted we said we did not know. He said: "You are wrong; find out what you want; go before the committee and ask for it, and you will get it." So far as the Ontario Government is concerned, they have always given us when we asked them. The trouble is we have not asked for enough, and because we have never asked for it we have never got it. Had the Government given more money for inspectors more good would have been done. As Mr. Geary knows, just at the time when we were doing the best work we were cramped for want of funds. There is an inspector going around now that does not cost much, that cannot be deceived and cannot be

bought, and that is the Babcock tester. If it is used in every factory, perhaps there will be less necessity for public inspectors to go around. I have heard less about bad milk and adulterated milk since this instrument is in use than ever before, and I hope that soon it will do away with the necessity for any other inspector. We were always well received by the Government, and I am satisfied the Government will always be ready to give us what we ask in reason.

Mr. Andrew Pattullo, Woodstock: The remarks that have fallen from Mr. Dryden with reference to home consumption should be emphasized. Two years ago, before the County of Oxford Dairymen's Association, I took up the same question and I know that the dairymen there agreed with the views I expressed, which were much the same as those of Mr. Dryden. I think it would be easily possible to double the home consumption of this country within two years. It must be clear that we have been making mistakes in attempting to get our people to use the worst cheese while sending all the good cheese away. The question is, how are we going to remedy this? The President has told you how he has remedied it in his own district, and his example should be followed by other factories throughout the country. There is no question about the inferior cheese being sent to the towns and cities. I can speak from experience in my own town of Woodstock. For months past I have been endeavoring to get good cheese, and I have entirely failed. I do not know how it is in London, but I hope you have grocers here enterprising enough to keep good cheese. There is a class of people in all the cities who are ready to buy good cheese and not inquire too closely about the price. If the factories, instead of sending away all their good cheese, would endeavor to it in the hands of local dealers they would very soon find a rapidly increasing demand for it. It is true, as Mr. Casswell has said, that the home consumption in the United States has increased so rapidly that the export has fallen off. We ought to aim in the same direction in this country. If Mr. Dryden had said nothing but to speak of the advantage of cultivating the home market, his address of this afternoon would have been a most valuable one.

## SOME NOTES ON THE DAIRY INDUSTRY.

Prof. H. H. Dean, of the O. A. C., Guelph, was then called upon, and said: We must all regret that the elements have conspired against us this afternoon, but it is a matter for congratulation that so many have braved the storm to be present. Allow me to congratulate the Association upon the fact that we have at the head of it a thoroughly practical man. It would never do to have a professor at the head of this Convention. A gentleman said to me the other day, his prayer was to be delivered from professors. In the next place, I desire to congratulate your Secretary on the handsome programme he has got up. I think it one of the finest programmes we have ever had submitted, and I believe it did not cost the Convention anything, that the advertisements paid for the cost of printing. That shows what a little push can do, and must redound to the honor of the newly-appointed Secretary. I think you are to be congratulated as an Association upon securing the services of a practical man like Mr. Wheaton. You will always have a demand for men like him to go out to dairy meetings. I cannot begin to supply the demand; there are letters coming every day to the College for people to go out to dairy meetings. I think it is the duty of the Government and this Association, if the people want information, to see that men are provided to spread that information all over the country. The fact has been referred to that we do not get the men out to these conventions that we wish to have; the patrons who ought to be here do not come. You will remember the old legend about Mahomet. On one occasion he told his followers that if they would meet him at a certain place near a mountain, he would command the mountain to come to him and it would obey him. They assembled, expecting to see the mountain move to meet the prophet. Mahomet commanded the mountain, but it stood still. He was not a bit abashed, however, and said to his followers: "If the mountain will not

come to Mahomet, Mahomet will go to the mountain." So, if the patrons will not come to the Dairy Association meetings, we will have to send the meetings to the patrons. The people desire that this should be done, and, so far as I am concerned, I do not expect to be able to fill the engagements that are required of me. Let me mention the experience told me by a man from eastern Ontario. He started a winter creamery; I think he held in all twelve meetings in different parts of his district. He says that as a result he is getting a large patronage and his milk supply is doubling nearly every week. That shows what can be done by working up interest among the patrons. It is thrown up against the farmers that they are conservative. I was much struck with the remarks made upon that subject by one of the Professors of Cornell University speaking at a recent college meeting. He said that the conservatism of the farmers was the backbone and mainstay of the American nation. Other people were going widely into speculation; the farmers did not go into a thing until they could see their way clear, and this was the safeguard of the American nation. I believe it is true to a certain extent. While the farmers move slowly, it is because they desire to be fully convinced of the advantage of any step before they take it, and that is one of the safeguards of our dairy industry. We theoretical fellows are apt to get opinions into our heads that are not practical, and when we come to such meetings as this, we get the benefit of practical experience. A farmer said to me: "I believe those fellows at the College are improving every year; it is wonderful what we farmers have done for you, and if you stay there a while we will make good men of you." We are thankful for the help we are getting from the farmers and dairymen. Might I add a word as to the Travelling Dairy. I went to the Creameries' Association at Brockville, and they said there: "You fellows of the Travelling Dairy are going to kill the creamery." I defended myself and the action of the Minister as well as I could. What is the practical result of the Travelling Dairy? There will be more creameries established in the province of Ontario during the next five years than there have been started in any ten years previously. As the Hon. Mr. Dryden has just said, the work of the Travelling Dairy has aroused more interest and enthusiasm than anything else that has been done. The Minister has also referred to the success of the special course in dairying at the College. At first, as he has told you, we were dubious about getting a sufficient number of students, but we have had to refuse thirty applications and already have three applications in for next year. We have thrown the school open to ladies, and, no doubt, when we get sufficient accommodation we will have a number of lady students taking the special dairy course. The Minister has committed himself as to providing the necessary room to accommodate the students who desire to take this course. I am to speak to you about "Some Notes on the Dairy Industry." I shall mention four or five things. The first is more knowledge. I think that as dairymen we do not advertise our business half enough. You cannot pick up a daily paper but you see of the wonderful cures of different patent medicines. Yet we have never taken the trouble to advertise the need for good milk, butter and cheese, although milk is a perfect food, and cream properly treated is one of the finest foods for invalids there is. Why could we not advertise and inform the consumers of the economy of using more butter, milk and cheese? If we did that, I am satisfied it would help a great deal to increase the consumption of these articles. Chemical analysis shows that one gallon of milk contains as much nourishment as three pounds of beef. A gallon of milk will cost anywhere from ten to twenty cents, and three pounds of beef from fifteen to thirty cents. That is something we should lay before the people and show them that milk is one of the most economical foods they can buy. Those who write upon agricultural questions frequently refer to the fact that some of our farms are being run out—that the plant food is being removed. A farm is valuable for farming purposes just in proportion to the plant food in the soil. And every crop we sell, every bushel of grain, every pound of beef, every gallon of milk takes away a certain portion of plant food. We should so carry on our farming operations as not only to gain a profit but at the same time to keep up the fertility of the soil. There is no kind of farming that will do this as well as live stock raising and dairy farming. Why? Because 80 per cent. of the fertilizing elements in the food we give to the animals is returned to the

soil. Butter-making will keep up the supply better than anything else. Another important thing is to have better cows. That is an old story, but it cannot be repeated too often. I do not know how it is here in the west, but in the east they speak a great deal about "standards." A "standard" is 3,000 pounds of milk for each cow. The cow knows what is expected of her, and rather than disappoint her owner she gives the milk. If you double the standard, no doubt the cow will live up to it, and if she doesn't you should get rid of her. You can't afford to keep three-thousand-pound cows. Better raise the standard to 6,000 pounds or 250 pounds of butter. Two things must be taken into account to determine the value of a cow—the quantity of the milk and the quality of the milk. In our stables at the College was one cow whose milk averaged less than three per cent. of butter-fat. But she yielded in the year 9,913 pounds of milk averaging 2.82. Judged only by the quality of the milk she was not a valuable animal, but when I say that she gave 279½ lb. of butter-fat, or over 300 lb. of butter you will see that quantity as well as quality is to be considered. We have adopted the standard I mentioned—6,000 lb. of milk or 250 lb. of butter. If a cow does not come up to that standard, we get rid of her.

We have a card up in front of each cow giving the pounds of milk, per cent. of fat and total pounds of fat produced during the year and as you pass down the line you can see exactly what each cow has done during the year. You may think it too much trouble to weigh the milk every morning, but, if you think so weigh it once a week to once a month. Having adopted the standard we have better cows than we used to have. Now how are we to get good cows? We must breed them. "Like produces like," is the foundation principle of cattle breeding, and a good cow is likely, though not sure, to have a good calf; and if you get a pure-bred sire of milking strain you are practically sure to get good milkers. Select the best native-bred cows and breed to pure-bred males of milking breeds. Then take the heifer calf and breed to the same breed as the sire. If you breed first to an Ayrshire and then breed the heifer calf to a Holstein, you bring together two forces that will not mingle. Take an Ayrshire grade heifer and breed to pure-bred Ayreshires and so on, and in a few generations you will have almost pure-bred animals. The pure-bred animal is not necessarily a good dairy animal. It is hard for the breeders who have been accustomed to regard beef qualities to learn that. A breeder came into our dairy once, and looking at an old blue cow we have there, said, "It would make me sick to go into a stable and see it filled with such cows." And yet that cow is one of the best we have. I would keep breeding up from the milking breeds and in a few years would have almost pure-bred animals. In fact they are more likely to be good milkers than if bred pure. But you may get the best cow that money can buy and she will not yield milk if you do not feed her. There are some people who feed very liberally on straw, and wonder that they do not get more milk. We have nor found the straw to be a good milk food. What is necessary for the production of milk? Grass—something succulent. Of course we cannot have grass the year round, but we can get something to produce fat, and there are two things that approach grass very closely, ensilage and roots. I am satisfied that ensilage is the cheapest food for the winter dairy. We are feeding at present a ration of 50 lb. of ensilage and some meal. That 50 lb. of ensilage costs us about 3 cents. You may think that is to little. But the farm department undertakes to grow the feed, cut the corn and put it in the silo for $1.25 a ton, and on that basis we feed ensilage for 3 cents a day. We feed some hay as well. I do not think ensilage is a perfect food, though some feed it alone and say they have good results. I think it takes a combination of foods to make a perfect ration. Grass is the nearest to perfection. I would feed some hay and, for milking cows I would recommend meal. In the early winter we fed 50 lb. of ensilage, 6 lb. of hay, 2 lb. of cotton-seed meal, 2 lb. oat-meal, 2 lb. of bran. We have been making some experiments to determine the feeding value of wheat. I did that at the suggestion of some of the dairyman at the Oxford Dairymen's Convention. They suggested that we should try it with milking cows. We selected six, two that had been milking for some time, two that had been milking for several months and two fresh. As an average we were able to make $2 per hundred out of the ground wheat, reckoning the selling price of butter at 22 cents

and taking out the cost of other foods. I believe there is more money in feeding wheat to cows than in selling it at 65 cents or 70 cents a bushel. I would not like to speak too definitely because the experiments are not yet finished. We need to get cheap food. Some people seem to think that if they get a high price for their butter, they must be making money. I think I can prove that it is not so. Take a ration that costs 25 cents a day. A writer recently issued a book giving a ration at about 30 cents a day. I doubt if the average dairyman can feed so expensive a ration at a profit, though the writer claimed that it could be done. We must study how to feed our cows cheaply. The profit in dairying, as in everything, depends on the difference between the cost of producing and the selling price. Suppose that now it costs us 10 cents to produce a pound of cheese, and that we sell it for 11 cents. Then suppose we can get cheaper food and produce that pound of cheese at 6 cents. We make a profit of 5 cents instead of a profit of 1 cent. What are the results of winter dairying? Those who have tried it are well satisfied. I think Mr. Ruddick will say that that is the experience of those is the East and West Oxford factories. I am satisfied that we need to go into winter dairying in order to have profits come in during the winter as well as the summer. There are two ways of carrying on winter dairying, private dairying, and the co-operative plan. The Minister was quite right when he said that you must get the people to take the first step by going into private dairying, after which they will learn to co-operate. The people will go into winter dairying and we shall see a large number of co-operative factories started next year. We want the hearty co-operation of the milk producer, the manufacturer, and the consumer in order to get the best results. I am glad to find a healthy spirit of rivalry among the factories. Let every factory try to make its product the best in the market. To do that, it is necessary, as the President has said, that the patrons should supply a first-class article, for even the best cheese-maker cannot make good cheese unless he has good milk to start with. If we have a healthy spirit of rivalry between the factories, we shall see great improvement in the next few years. The fat is the most valuable part of the milk; take out the fat and the remaining portion is worth very little for cheese-making. If anyone has ever seen skim cheese he will agree that what I say is true. I never saw skim cheese until I was in Wisconsin last year. I was at the dairy school there and they were experimenting with skim cheese. They had some in the curing room. They called them "Young Americas." After I had seen them I said to my friends there: "If you ever go into war you can use these for ball." The question is raised very often whether, even admittting that it is proper to pay for milk for butter-making according to its fat percentage, the same is necessarily true of milk for cheese-making. This is the way it is put: Suppose one man sends milk with 2½ per cent. of fat and another sends milk with 5 per cent., will the 5 per cent. milk make twice as much cheese as the 2½ per cent. milk, and, if not, why should it be paid for at double the rate? No; 5 per cent. milk will not make double the quantity of butter that 2½ per cent. milk will make. Fat is not only the most valuable but it is also the most variable element in the milk. Milk may vary from 2 to 10 per cent. of fat. The average is 3½ to 4 per cent. The casein does not vary like the fat. Milk containing 2½ would have as much casein as the other. But experiments have shown that the higher the proportion of fat, the less milk it takes to produce a given quantity of cheese. Mr. Grey will perhaps give us the results of his experiments. Those experiments go a long way to prove that fat is the proper basis upon which to pay for milk. There are a great many new things coming up and a man must keep his mind open to new ideas or he will be left behind in the race for competition. Professor Smith of the Arkansas Experimental Station tells a story about an old darkey named Uncle Jake. The old man was in one of the ice factories watching the freezing machines and the cakes of ice coming out of them. At last he said, "Well, Marse Smith, dat beats everyt'ing. Even de Lawd kain't make ice 'cep'n' in de winter time, but de blame Yankee kin make it all de year roun'." There are many wonderful things for us to learn in the dairy business as well. A man must study; he must take advantage of such conventions as this and every other means of gaining information in order that he may keep up with the progress of the times. The meeting then adjourned.

## FIRST DAY—EVENING SESSION.

The Convention reassembled at 8 o'clock.

The PRESIDENT introduced Mr. SPENCER, Mayor of the city of London, and Mr. MASURET, President of the Board of Trade who delivered brief addresses, welcoming the members of the Association and expressing their appreciation of the choice of London as the meeting place. The President, on behalf of the Association, returned the thanks of the members to the Mayor and Board of Trade and the citizens of London for the hospitality and courtesy extended to them.

## GOOD ROADS IN RELATION TO THE DAIRY INTERESTS.

Mr. ANDREW PATTULLO was then called upon to speak upon "Good roads in relation to the dairy interests."

The PRESIDENT, introducing Mr. Pattullo, said: I am sorry there are not more of the farming community to listen to the address we are now to hear, because I know it is one of vital importance to the country to-day. I am not going to take anything out of Mr. Pattullo's mouth, but the subject upon which he is to speak is one reform which I have been advocating for a long time in my section—the doing away with statute labor. Too many of the people who go on the road to do road work look upon it as a sort of holiday, because, as they say, they are "working for the Queen." They do not realize that every load of gravel on the road is adding to the value of their own farms. I think the only method of reform is legislation which will do away with the old system of statute labor and levy a general tax.

Mr. PATTULLO: It has been said by some philosopher, real or alleged, that the true test of civilization in any country is the use of soap, and, no doubt, many of the manufacturers who advertise so extensively would say that this is a correct statement. But, if you were to ask me, what I regard as the true test of civilization in country, I would probably name the common roads. Still I would hesitate to raise that standard, because, loving our country as I do, I am afraid it would be a wound to my national pride, for, if we were to judge this young country of ours by the common roads we find here, as compared with the roads of other countries, or by ideal roads, I am afraid we would have to confess that we had hardly reached beyond a state of semi-barbarism. Why are the roads no better than they are? I do not think it is because of any lack of ability on the part of the Canadian people, because we do many things well. One of the things that strike an Englishman on arriving here is that we do some things so marvellously well while in other things we are so sadly behind the times. An Englishman, speaking to me, pointed out that we were more comfortable in our homes than people equally well situated in the old country Also that we had already solved many problems that they could not solve in the old country. But in the old country they have marvellously good roads, while we have marvellously bad ones. I do not know why this should be so in a country as intelligent and as progressive as this, because the art of road-making is not a new one. It is an art known to the ancients; yet it is not like the art of embalming—it has never been lost. There are evidences of the skill of the Romans in road-making, not only in Italy but in England. When the Spaniards entered America four hundred years ago they found thousands of miles of good roads stretching across the plains, traversing rivers and mountains, showing the state of civilization which then existed among the people or had existed at one time. Let me come to the system upon which we make our roads. Your President has spoken of the statute labor system. It it not my intention to attack the system or to ask for its abolition. But it seems to me to be radically wrong in this respect: that while road-making is an art, as much as any other industry in the country, the road-making here is placed in the hands of people who are entirely ignorant of the work they undertake to perform. When you desire to make cheese, you employ a cheese-maker; if you employed any other you would fail. Road-making is as highly technical a matter as the making of cheese. No man can

make roads scientifically, economically and well unless he has paid special attention to the art of road-making. I have great respect for the Canadian farmer; I admire his intelligence and progress. I am a farmer's son and have worked on a farm. I can meet and talk with the farmers as one of themselves. So I need never hesitate to tell the farmers what I think. The farmers of Ontario know very little about how to make roads, and it is as well that they should realize that fact. The sooner they do realize it the better for the cause of good road-making. One defect of the statute labor system is, that there is no skilled intelligence at the head of it. There are plenty of path-masters in the country who are doing fairly good work, but generally they do extremely poor work. As a boy from ten to fifteen years of age I used to do statute labor myself, and I could do what was counted a man's work, and I have still recollections of the experiences of those days. My recollection is that the size of loads of gravel was in inverse proportions to the lengths of the yarns the fellows used to spin in the gravel pit, and that is about the key-note to the statute labor that is done to-day. It is inefficient in almost every respect. Another defect of statute labor is that there is no continuity about it. A good path-master will do extremely good work on the road this year, and a poor path-master will come along next year and spoil it all. So long as that is possible you may be sure that we shall not have good results from the system of statute labor. I have had occasion in the discussion of this question, which is one in which I have taken considerable interest during the past year, to write privately to a large number of gentlemen connected with municipal institutions. I addressed letters to the clerks and reeves of the various townships to get their opinions as men of experience on the statute labor system. The opinions were practically all the same. They all agreed, including men who had been in municipal life for fifty years, that the statute labor was inefficient, and some of them put it more strongly even than that. But I may summarize their opinions by saying that they regarded the system as inefficient, and some of them went further and stated that if the statute labor were commuted at fifty cents per day and the money expended directly it would accomplish far better results than at the present time. I am not going to dogmatize and tell you the system that ought to be in vogue, because that is a matter of growth and public opinion, but I want to say that a system to be efficient must put the work of road-making into the hands of somebody who has made this art a special study and has had some experience, and further must recognize the principle that the work of road-making and road-repairing must go on during the whole season instead of for only two or three weeks in the year. When you break your waggon you do not wait for a year to repair it. But if your roads become uneven and rough you do not repair them at once. You wait until the following year, and then you do your road-work, which is called repairing, and which very often is injuring instead of improving the road. I do not know how you make your roads here, but I know how it is done in Oxford. If they gravel a road, they do not do it upon scientific principles They do not make provision for draining. They scrape the road at the side, pile it up in the middle and dump gravel on the top. The system of dumping leaves the fine gravel at the bottom and the large stone at the top, they call road-making, but really those who make roads in that way ought to be arrested for obstructing the highway and damaging the property of people who travel on the road. If you will study and find out the worst possible way to make a road you will learn the method that is pursued in Oxford and many other parts of this country. The system ought to be exactly reversed. I am not one of those who like to see the country saddled with heavy expenditure in the way of making roads, and I do not believe that in this province there is any use of advocating macadam roads in every part of the country. But I think that in a few years we could have an excellent system of gravelled roads. I do not see why the farmers of this country have not sufficient intelligence and knowledge to make these roads for themselves. There are a few elementary things that must be attended to in road-making. I do not want to get into this matter at length, but let me mention a few elementary points. The grade should be uniform and worked up to a recognized standard, laid down by competent engineers in road-making. There should be provision for drainage.

Gravel should be added and rolled and the road should be kept in constant repair. At the present time most of the road work is done in the middle of the year, about July, the worst time of the year. When the new material is put on about the end of July or the beginning of August, the roads are broken up in many places, then in a few weeks the rainy season begins and the roads are in a hopeless muddle. It is an old and a true adage that "a stitch in time saves nine." You know perfectly well that if a little hole exists in the road, and if it is filled up in time no further damage occurs. But if it is neglected the place becomes a positive obstruction to traffic. In the old country they never think of doing their road-work as we do here. We are often told that we cannot have good roads here on account of the weather. I do not believe that. Our climate is no harder upon the roads than is the English climate. The frost throws up our roads in the spring, and in the fall, they are subject to the effects of wet weather, but that is true also of the old country. They have rain there nearly every month of the year. Why do they have such good roads? First, because they make them properly in the first place. They make the road-bed properly and keep the roads up systematically. They have men working on the roads all the year round. It is a positive pleasure to drive through Scotland in any part of it. Dr. Murray, who is the head of the Municipal Government in the county of Sutherlandshire, when in Woodstock remarked that it was a most wonderful thing that in this country, where all seemed to be so well off and happy, if not rich, the roads were so bad. Why, he said, up among the crofters in Northern Scotland, where they are so poor, they would not tolerate such roads for a single hour. The roads there are under municipal control as they are here. They have men working on the roads and they keep them in constant repair. The result is that in Sutherlandshire, as in other parts of Scotland, the roads are as smooth as a billiard table. I saw the other day in a magazine an account of a coaching expedition of Mr. James Gordon Bennett, the well-known editor, and it shows the kind of roads they have in France. They drove their coach one hundred and forty miles in less than ten hours. Fourteen miles an hour! There would not have been a piece of the coach left if they had gone five miles here at that pace. I do not expect you to adopt their system of government. They say that the best form of government is an autocracy. If you could get a man enormously clever and absolutely honest, perhaps he could run the province better than Sir Oliver Mowat, Mr. Dryden, and the rest of them, and that is saying a great deal. But we cannot have the bureaucracy as they have in France. We must depend upon the intelligence of the people and we know that the system of Government we have is the best upon the whole. But it is necessary to get the people educated up to the idea of good roads to show what is accomplished in other countries and what they would gain if they had a better system. I am sometimes asked, in discussing this question, what I expect. I have already told you that what we could accomplish is a system of good gravel roads. I do not think we could have macadam roads costing four or five thousand dollars a mile or more. There is no amount you could name as the price of macadam roads, as they vary according to locality. In Oxford we have abundance of good material for road-making at hand. We have gravel beds in all directions, but we do not use the material in an intelligent way. Another thing, we have enormous quantities of stone—good field stone. You see piles of these stones in the fields, doing no good and a nuisance to the farmers. If they were put on the roads they would be of enormous value; it is the best binding material in the world. In every township there ought to be a stone-crushing machine, and there ought to be steam rollers to put down the gravel properly. I am not going to deal much with figures; figures are sometimes misleading and sometimes inaccurate, even to try to ascertain what the correct figures are. But I think I can appeal to everyone in this audience when I say that it would be a matter of great economy in many directions if we had good roads in this country. I saw a calculation made the other day that it cost $4,000,000 per day to keep the horses and mules of the United States, that is, reckoning 25 cents per head per day. If these animals were idle an average of twenty days in a year, it would mean the loss of the enormous sum of $80,000,000 a year. Now, without going into the exact figures there is no doubt that the farmers of this country lose

many millions every year by their horses being idle, simply because the roads are so bad they cannot use them. And it is equally clear that with a better system of roads you could carry your produce to market at a great deal less cost than at present. The other day in a remarkable speech in Toronto, Mr. Van Horne calculated that, by improvements in ocean navigation, this country could reduce the cost of sending exports to England by ten per cent. If that were done it would simply give the producers of this country that ten per cent profit. This road question is simply another form of the question of transportation. If you have good roads you can send your products to market with greater facility and you increase your profits by that means. On the other hand is it not clear that by the present condition of the roads you are losing in many directions? Why is it that when you stand in the market-place here, or in any other town or city, you see so few horses coming in that are perfectly sound? They are injured by the roads we have. The farmers' sons in this country to-day are a little different from what they were a generation ago. They like to drive good horses and have good buggies, and I notice that the boys and girls drive pretty hard. The result is that the horses are knocked up. Drive a horse over any of the common roads in this country and you will not have a sound horse very long. This is one respect in which you lose. Go to the back yard of any blacksmith shop and you will see there the result in broken buggies and waggons of the bad roads of this country. I believe the farmers lose through their horses and vehicles enough to put the roads of this country in good condition. This is an age of progress and every reduction you can make in the cost of producing an article is so much added to your profits. I saw it stated the other day that things were cut so fine in the sugar industry that the saving of one-sixteenth of a cent in the manufacture of one hundred pounds of sugar was an important thing. Competition the world over is so keen that the farmers of Canada, in order to make a profit, must produce economically as compared with the farmers of every other country, and you can easily see how a profit could be made in improving the facilities for getting to market. Let me now come to the relation of this question to the dairy industry, because I am talking to dairymen, and, so far as this question relates to their own interest, of course, it must be specially interesting to them. It seems to me that no class of farmers in this country are more directly affected by good or bad roads than are the dairy farmers. At the Dairy Convention at Des Moines, I think, last year, it was expressed as the deliberate opinion that the bad roads of the State cost the dairy industry a loss of twenty per cent. If that is true—if one-quarter of that is true—can anyone doubt the interest of the dairymen in this question? I have the report of one of the cheese factories of Oxford. The hauling of milk costs the factory more than $1,000 a year. The average cost of the cheese factories of the country would be fully equal to that. As there are a thousand factories in Canada, the cost of hauling the milk throughout the country is about $1,000,000 a year. I do not know whether you will agree with me, and I am not very particular whether you do agree with me, as to the particular percentage. My impression is that with a system of roads such as they have in England or France, the cost of hauling the milk to the cheese factories could be reduced to one-half, and, if so, we would save to the dairy industry of this country $500,000 a year. But suppose that is too large, reduce it by twenty-five per cent. and see what an enormous saving you still have to the dairy industry of this country. That is five per cent. a year on the investment, and, in most things, that is an extremely good rate of profit. If you could increase your profits by five per cent. on the $11,000,000 worth of cheese you export every year, see the enormous profit to the people of this country. See how many miles of good roads you could afford to build for that sum. I want to tell you that it is necessary for you to economize on this point. Mr. Dryden spoke to you of the possibility of overdoing the dairy industry. I agree that there is no great danger of that at the present time. But you must realize that the dairy schools of this country are improving and benefiting the dairymen in other parts of the world as they are here. And so you have stronger competitors than you had some years ago, and it has come down to this, that unless you can produce cheese, not only of very high quality, but also as cheaply as others can produce it, you must fall behind in the race and throw away a

large proportion of your profits. It is not merely in the hauling of the milk to the factory that the question of good roads affect you, there are other ways in which this touches you very closely. You not only send the milk to the factories, but you send the whey back and that is a very important item. In all the work connected with the cheese factory, time is a very important matter. You have to suffer from the practical inconvenience that sometimes the roads are so bad that in order to take the milk from outlying points and get it to the factory in time they have to get up the day before almost, in order to begin their journey. You have to milk the cows at all hours. If you had better roads and better arrangements for hauling the milk and the whey it would be of enormous advantage. I do not wish to weary you, and I know that with such an audience it is only necessary to appeal to you with sound argument in order to win approval of what one is saying. It is considerations such as I have presented to you that has induced me to request the Directors of the Association to bring this matter before the dairymen here as I have brought it before the dairymen of our own county. It is only necessary to show them the advantages to be gained in order to arouse their interest in this matter. I am reminded of the experience of Hon. Thomas Ballantyne, who is an ardent friend of good roads. He came down to Oxford from Perth to investigate the dairy industry, and he found that with the bad system of roads in his own country it would be impossible to introduce the co-operative dairying system. He and others went manfully to work to improve the roads. You have been talking about winter dairying, but you know that winter dairying begins in the fall and ends late in the spring, and so covers those portions of the year when the roads are at their worst. By improving the roads you could add to the profit of winter dairying. I come now to a branch of the subject which I approach with diffidence, the question of the law. I approach it with diffidence because we have gentlemen here who are identified with municipal government, and such men as these will have much to say as to any changes of the law that may be proposed. I am one of those not disposed to rely so much upon the law as upon the intelligence and progressiveness of the people themselves. You cannot make the people rich by law. The law sometimes makes them poor. The only thing the law can do is to enable the people to work for themselves under the best possible conditions. You cannot have good roads in this country merely by passing a new statute. Some years ago some well-meaning people, who certainly were in some respects right, thought they could abolish the drink traffic by law in the different districts, and so they adopted the Scott Act; but their hopes were not entirely realized. Another illustration: You know we are cursed in this country with Canada thistles. A most excellent law has been passed to do away with this nuisance, but the Canada thistles continue to grow in our fields and on the roadside mocking the law-makers of the country. John Bright once said that it was wrong to put a law in the statute books which was not likely to be enforced. I am convinced that if the law-makers were to enact a statute with regard to road-making in advance of public opinion they would make a mistake. The present law enables the people to do much good if they will take advantage of it. It enables the people to raise money by way of debenture debt and to expend that money in making permanent roadways. It enables them to commute the statute labor, thus doing away with this system, and it enables them to appoint overseers and have the work done on a different system from that at present followed. But in very few parts of the country is the law taken advantage of. Consequently I feel that objections might at once be raised if we were to ask the Legislature to do more, when we have not taken advantage of the law as it exists. At the same time I do not think the law with reference to statute labor is as perfect as it might be. But if Mr. Dryden ever deals with this question, as I have no doubt he will, I hope he will see that the necessary changes are made, and have it provided that the money must be spent according to fixed principles and under the direction of engineers competent to direct the making of roads. I think that further facilities might be granted to the municipalities in the way of appointing overseers with provision for their payment. There is one direction in which the Legislature might take action with good results. It has always seemed to me that the roads are injured by narrow tires You cannot have good roads so long as those roads are traversed with wheels like circular saws. In the old countries they use wide tires,

and these, instead of injuring the roads, actually help to keep them good. No matter how heavy the loads the wheels do not injure the roads. By some system of taxation or exemption the Government might encourage the use of wide tires and discourage the use of narrow tires. This question is attracting great attention in the United States, and I am rather sorry to see the direction in which some of the leading men are going. Some of them are demanding that the Federal Government shall take this up as a national question. I hope they will do nothing of the kind. I do not believe it is a national question, or that you can make it so in that democratic country. The common roads of the country are local works; the railways are national highways. If the National Government were to take up this question you would soon see the trail of the politician upon the roads of the country. We might as well make up our minds that this is a question to be dealt with by the municipalities, and the only hope we have of making progress is to educate public opinion up to good roads. And I have faith in the people of the country to believe that, even with the laws we have, and more particularly with such improvements as we shall have, we may before long see important, practical reform in making of our roads. Our people have got so used to bad roads that they do not realize how improvements can be made. But once they realize how much they are losing by bad roads, they will take hold of this as a practical question and deal with it a great deal better than if the politicians took hold of it. I am delighted to see the progress that has been made within the short time of this agitation. Some have been a little disappointed by the failure to carry by-laws submitted in certain municipalities with the view of improving the roads. For my part I am not sorry, because I believe these by-laws would have gone a little in advance of public opinion, and before you have by-laws you want to have public opinion that will carry them out when they are adopted. One reason why there would be difficulty in carrying out some of these by-laws is that, though the statute labor would be commuted, the expenditure of the money raised would be in the hands of exactly the same class of people as now direct the statute labor, many of whom do not understand the making of roads. Would I do away with the statute labor? I would and I would not. I do not believe we have reached the time for the discussion of that question yet. I look forward to the time when the people will raise the money for roads by direct taxation and expend it under skilled supervision and have the expenditure going on during the whole year. Even when that time comes the use of such labor as is now called statute labor need not be precluded. The work throughout the rural districts would have to be done by the farmers as other labor would not be available. Some will find that it does not pay them to go out and do road-work, while others will be glad to obtain employment from the township in making these roads. I hope to see the time when there will be men engaged in the business of road-making here as in the old country; men stationed here and there spending their whole time in keeping the roads in repair. If employment were given to men skilled in road-making it would really be a great advantage. But in the meantime let a competent engineer be employed in the several localities to direct the work, and let the work be done by the farmers or others whom he will engage, together with some men who will work at this business all the year round, and then you will get the results at which we aim. We have spent much money in educating civil engineers, and when they are educated they leave us. Why cannot we employ these men at home? Why cannot we teach the farmers' sons at the Agricultural College the art of road-making so that when they return to their homes they can be employed by their municipalities to oversee the work of making and maintaining our highways?

Mr. CLARKE: They are being taught it now.

Mr. PATTULLO: I am proud that they are being taught it. I want to compliment the Ontario Government for showing the farmers what good roads are and how they can be easily made. There is a patriotic side to this question. You know, those of you who have been in the old country, how easy and pleasant it is to drive in every part of that country. But it is not so here. But it is no pleasure to drive through this country at certain seasons of the year when the roads are the very reverse of what they ought to be.

I believe that good roads would promote sociability in rural life and keep the young people upon the farm and so increase contentment among that class of population upon whom the welfare of the country depends.

A MEMBER: What would Mr. Pattullo do in the case of counties in which there is no gravel within hauling distance?

Mr. PATTULLO: Of course, if you have not the material you cannot make ideal roads without enormous expenditure. Take some of the districts in the west, where they have no gravel or stone, and I do not see that anything could be done except to make the grades as good as possible and to provide for perfect drainage.

Mr. J. HENRY WOOLLEY, Simcoe: I want to say a few words with regard to the broad tires. I have in mind a section of road which used to be good, but the gravel is all used up and there is no gravel within drawing distance. In that section there are a great many wide tires, and I notice that where the wide tires are used the roads are not so much cut up. The vehicles do not travel in the same track, and the effect is just as Mr. Pattullo said of the old country. Where we have clay and clay loam roads, the narrow tires make ruts that hold the water and make the roads soft. I read in an American paper the three great points in good road making. The first was, to let the water run off; the second, to ditch it so as to keep the water off; and the third, to keep it dry.

Mr. J. S. PEARCE, London: I listened with the greatest pleasure to Mr. Pattullo's address. This is one of the most important questions that can come up, and one directly connected with the cheese factory industry. The suggestions he has made would lead to marvellous results if they were adopted. The great trouble, as Mr. Pattullo says, is the want of experience in road-making. The Agricultural College has taken a step in the right direction by making instruction in road-making a part of the course.

Mr. MORGAN, Adelaide: In our municipality it has been the practice to appoint one councillor as road commissioner. But public sentiment may change at any time, so that the appointment of another commissioner becomes necessary, and before the new man has gained his experience, the roads are apt to suffer. I am a strong advocate of appointing a practical man as a road commissioner and commuting the statute labor in the form of a tax. There is, no doubt, a great deal in what my friend has said with regard to the time squandered in municipalities on road-making. If the tax were levied directly, the tendency would be to remedy this. If we would endeavor to be economical in the building of these roads, and recognize the fact that the work that is being done is being done for ourselves, it would be a great saving. I appreciate that idea very much, and I intend to carry it into effect as far as I can, in our own municipality.

Mr. PATTULLO: The evening is young yet, and I am sure all would be glad to hear a few words from Mr. Dryden.

Hon. JOHN DRYDEN: I see my friend Pattullo thinks he is going to commit me to some outline of policy for the future. He has made a statement with which I quite agree, that it is not so much new legislation you want as the carrying out of what you have. Nobody in this country has a greater admiration for good roads than I have. I have thought a good deal about the subject and have studied it as well as I could, and I am bound to say that there is a good deal of difficulty in connection with it. We live in a democratic country, and it will not do for any Government or any individual to assume the right of taxing the people right and left to raise money for him to spend. I know the discussion of the subject in such meetings as this is doing a great deal of good. As Mr. Pattullo says, the people must be educated, and that education is one of the legitimate functions of Government; as I have said about making cheese, so I say about road-making. I do not know that you are aware of what I am doing. I do not know that even my colleagues are aware of it. I have engaged the services of a competent engineer to prepare a bulletin on road-making, which I am going to scatter broadcast. It will not make good roads, but it will perhaps be a step in advance, because, I believe, if the people were better informed upon this subject, the results of their work would be better. I was glad to hear Mr. Pattullo speak as he did of the statute labor. Many editors call for the sweeping away of the whole system. Now,

the roads have to be made by the same people who are at present engaged in statute labor. The roads in this country are not as they are in the old country. There they have great main roads running from town to town. They have good roads, but those roads are not so numerous as is generally believed. Here we have town lines and side lines leading to every man's door, and the question of improving all these roads has to be considered. Suppose you commute this statute labor in the form of a tax and put the money in the hands of a commissioner to spend. The people are accustomed to putting their work upon their own side lines and concessions, and if any change were attempted under the commissioner, there would be trouble. What I think is necessary to commence with is a reduction in the number of path-masters. We have too many of these, and they know too little about their business. I would like to see the statute labor as at present better directed. I can take you to sections of the country where the statute labor is as effective as any other kind, because it is properly directed, and the reason for that is that the people have chosen a good path-master and kept him, and he has directed the labor to advantage. I could take you to another section where the roads are built over a natural gravel pit, and where the men during the days of statute labor, sit on the fence and tell yarns, and when, by-and-bye, the road gets out of repair, they have to ask the council to furnish the money to provide a road for them. That is the difference in human nature and public sentiment. What we want is a belief all through this country that it is not a waste of labor to go and work on the road ; it is not "working for the Queen," but working for themselves. We will have to agitate this subject a good deal before we can entirely change the system we have in this country. The people have a right to commute the statute labor and appoint commissioners all over this country, but they do not do it. I believe you will not find two cases in which it has been done but the people have gone back to the old system. This shows that there are difficulties in the way. I heard a man at a meeting once say : "Let the Government take hold of it." Who is the Government? We are only the servants of the people, and we are there only to carry out the people's will. It is useless to ask the Government to do what the people themselves do not want done. As to road-making, I want to emphasize one or two things Mr. Pattullo has said. Undoubtedly, the foundation principle of good road-making is good drainage. I can take you to roads all over this country and show you that where they are bad that is the real defect. I recall distinctly one particular hal-fmile of the road between Whitby and Port Perry, which runs down a side hill, and I defy anybody to make a road there without good drainage. In the first place, a large drain was run down the centre of the road and filled up with stone, and if you go there now you will find the water running out constantly, and, summer or winter, you will find there a good road. And I venture to say that if that principle were carried out more than it is all over the country, you would find your roads greatly improved, even as they are built at the present day. The question of wide tires has been spoken about. I believe in wide tires, but I think the President put it right when he said : "First get good roads and then insist upon wide tires to keep them good." What I complain about is, that so many of the path-masters seem so anxious to preserve the road. They dump piles of large stones along the middle of the road. The result is, of course, that nobody goes in the middle, and the middle is preserved for three or four years, and you have to get along as best you can on either side. Mr. Pattullo did not put it too strongly when he said that such a man should be committed for obstructing the highway. If there were no other way of preventing him, such a man should be put in prison. In winter the snow comes and the people must turn aside into the fields. Presently the road goes dry and then the people must turn aside because the path-master has dumped piles of stone on the road and so the road is useless for the summer. I have been much interested in hearing Mr. Pattullo speak on this question, and I do not know that I have anything to add in connection with it. When he answered a gentleman here with regard to clay roads and the procuring of good material, I was wishing he would make a suggestion which I now do. Take the good clay you have got and burn it into a species of hard brick. This makes the best substitute for stone. It will make a good road if it is properly used. You can take your own clay and make the road comparatively good under all circumstances. There is no portion of the country where you cannot get one

material or another. In any case, the roads will be improved if proper attention is given to them. I hope Mr. Pattullo and others will go on with this agitation. I have been reading what he has to say in his paper with great interest. I believe with him that it is not so much legislation that is wanted as the education of the people, and that when the people are educated good roads will follow.

The PRESIDENT: Though the hour is drawing a little late, I see an old associate of ours here, and I would like him to give us a few words of his experience in dairy matters. I call upon Rev. W. F. Clarke.

## ODDS AND ENDS.

Mr. CLARKE: I am sorry I cannot say ladies and gentlemen. We used to have a sprinkling of the fair sex at these dairy meetings. This is a world of change, and I myself am a striking illustration of it. I have been a clergyman all my life, and now I am converted into a lame man. All my life I have been a biped, but lately I have been compelled to become a quadruped. The trouble is sciatica—what the late Sir John Macdonald used to call toothache in the hip. I trust that you pardon these personal allusions, because I have many old friends here who have been asking why I have taken to crutches. Mr. President, you referred to my taking part in these conventions in the early days. I used to be very active in them. I think my friend Mr. Chadwick and I are the only two present who were at the founding of this Association. In the old days I used often to act as stop-gap when time had to be filled up. I suppose that is one reason why I am called on to-night. I thought before I left home that I had better prepare for any such emergency, and so I jotted down a few ideas. There are a few things I wanted to say to this Association if I got the opportunity.

Quite a patriarchal feeling, and I may add, somewhat of a lonely feeling stole over me, when, after an unavoidable absence of three years, I looked forward to the prospect of attending this Dairy Convention once more. I could not but think of the long period, over a quarter of a century, which has elapsed since my first appearance on an occasion like the present. I realized the vast changes time is making in our working forces, and the vacant places there are, here and there, among us. I sadly miss those whose co-operation and good fellowship invest the early days of Canadian dairying with memories of tender and pathetic interest. To begin with, the Ranney family, for my recollection and acquaintance go back to the earliest of the pioneers in the dairy business of Western Ontario; then Harvey Farrington, to whom we owe so great a debt of gratitude, and whose name will long be green and fragrant among us; X. A. Willard, whose polished essays did so much to spread dairy knowledge among us at an early day, and at the same time set so high a standard of literay taste for us; Harris Lewis, whose pleasant face was always welcome, and in whom practical knowledge, sprightly wit and an unfailing store of anecdote were happily blended; and Arnold, "The noblest Roman of them all," untiring in study, investigation and research; modest, and unassuming as a little child, but a true philosopher. Ah me! How many with whom I have stood side by side and shoulder to shoulder in the work of this Association have gone over to the silent majority.

The one consolation is, that their places are being filled by other and younger men, whose bones are full of marrow, whose breasts are full of milk, and the greater part of whose lives are yet before them. It would be invidious to speak of the rank and file of Ontario dairymen, who are bearing the heat and burden of the day in the prosecution of the various departments of dairy manipulation and management, except to say that they are worthy successors of the pioneers whose names have been adverted to. So far as the public instruction connected with this Association is concerned, there is assuredly no falling off. In Prof. Roberts, we have a link between the past and the present: a trustworthy teacher,—conservative enough to part with nothing of the old that is truly valuable, and progressive enough to let nothing new escape him that is worth perpetuating. Editor (now Ex-Governor) Hoard—it is not often that editors get such a rise in the world as to

become Governors—who recalls the song about "three single gentlemen rolled into one," for he embodies many of the best characteristics of Willard, Lewis and Arnold, in his own person; we have a host when we are fortunate enough to have him! Last, but not least in any respects, without it be in bulk and stature, there is our own Prof. Robertson, of whom it would be difficult to speak too highly, and concerning whom I will only say that, with all my veneration and admiration for the pulpit, I shall feel a pang of regret, if even that robs him from the dairy. Younger still in the ranks are such men as Dean, Palmer, Crealy and others, full of promise and of future usefulness.

I have entitled this paper, "Odds and Ends," because I do not propose to go into anything very lengthy or elaborate at this time. I leave the more important viands, such as the roast-beef and plum-pudding to others; content to serve up two or three side-dishes, or possibly some fruit and dessert. I find that the papers I have contributed to this Association in past years would make quite a volume. I have done what I could in a humble way, beginning at a time when dairy writers and speakers were more scarce than they are now. It is twenty-nine years ago since my first dairy article appeared in the initial number of the CANADA FARMER, which I had undertaken to edit. That was three and a half years before the first Canadian Dairy Association was formed, and a few months prior to the opening of the first cheese factory in the province of Ontario. I have been at it, more or less, ever since, and do not mean to quit the good work, so long as I can drive a pen, or wag a tongue. But I intend to take life easier now—whatever there may be left of it—and I think none of my old friends and co-workers in this Association will begrudge me a quiet graze in that field of clover, of which I have spoken so often and written so much. Not that I am exactly in "clover," figuratively and financially speaking. I do not like to see old men hanging on too long to positions they have filled however creditably, in the past. A time comes for the new leaf to push; there is not room for both old and new on the one stem; and the new is the more valuable of the two, because all life's possibilities are before it. Therefore the old should not only be willing to give place when their turn comes, but should do all in their power to encourage and develop the new growth, that it may be fit to take the part and do the work of that which is passing away. It is said by those who have had the honor of Court presentations, that the most difficult part of the whole affair is to master the art of retiring. Coming on the scene is easy enough; and acting your part, while in the immediate presence of royalty can be managed very well; but to retire, without some untoward accident, is the grand difficulty. You must keep face forward; you must manage your stupid Court drapery dexterously; you must take care of your feet and not get entangled; you must be present all the time you are trying to make yourself scarce; and finally, you must glide out of the audience chamber, like a dream or a ghost, no one seeing you go! It takes a very clever person to do all this without any misadventure or blunder, and few get through the ordeal without some *contretemps*! It is very much the same sort of thing to retire from certain public positions, and make your exit to a quiet sphere where you can enjoy *otium cum dig.* I am doing my best to perform this difficult feat; possibly, however, not with any distinguished success! Among the few things in which we have failed during the many years I have been co-operating with you at these Conventions, there has been this, that we have not secured an attendance of ladies to the extent we have tried to bring about, and the extent essential to the highest interest and profit of these occasions. I do not care for assemblies wholly made up of men. We sometimes see even certain religious meetings advertised for "men only." I don't take any stock in them. I have been at a great many farmers' institutes and dairy conventions, at which there were from one to several hundred men present, without a solitary lady to vary the dull and bleak monotony of the scene! I have no admiration of such one-sided gatherings, especially, as their being such, is all the fault of the men. The masculine members of the *genus homo* has a very bad habit of leaving the other and the better half of him at home when he goes to gatherings on occasions of this kind. Man alive! why don't you take your wife with you when you go to the Dairy Convention, and similar gatherings? She has a mind just as capable of enjoyment and improvement as yours,—she needs the rest, change of thought and pleasure of a trip just as much as you do, and her presence is worth just as much to the meeting as yours. Is your wife so overworked and

worn out that you are ashamed of her, or have you got into a way of neglecting her through thoughtlessness? Probably the latter. But let every married man present ask himself if he takes his wife with him as much as he did when he was first married. Perhaps you say,—"Well, she don't care to go?" And why does she not care to go? Because she is not invited, or is asked in such a way that it is plain her absence is desired more than her company. "Wife, you can go if you want to," or "I guess you don't care to go," are styles of invitation that no woman of any spirit will be likely to accept. That was not the way in which you invited her to take a buggy or sleigh ride in the old courting days. If you will ask her as you did then,—if you will say, "Do come along, wife, I should not enjoy it at all without you," and let her see that you really want and appreciate her company, I'll warrant she will go, if she has to sit up half the night to prepare her toggery and make up for lost time. The more a women stays at home the less she cares to go out, and yet she needs the change most when she has got indifferent to it. The bad habit of staying at home is glided into almost unconsciously, but when once a woman gets the idea that her husband does not care for her company, she is not going to thrust it upon him. Here and there a woman of spunk and spirit, when she knows and feels that she is neglected, will go all the more, just to spite her worser half; but the generality of them keep still, nurse their wrongs all to themselves, and try to get interested in home affairs enough to forget their annoyances. A man should remember that his wife needs courting after marriage just as much as she did before. He should invite her to ride and walk walk with him just as much, and when he is out any place with her he should behave as politely as he did in their courting days, so that strangers will say, "How fond that man and woman are of one another; guess they haven't been married long!" Do this, my friend, and your wife will not be such a persistent stop-at-home. She will go with you, enjoy the trip, and want to go again. Her health and spirits will improve. The meetings will be better attended, and will go off with more spirit. All concerned will be the better for an abandonment of the bad custom of leaving the women at home.

There are a great many practical matters in connection with dairy farming which I should like to emphasize in this address, which, somehow or other, has assumed a kind of valedictory form, and in the utter impossibility of alluding to all or even a few of them, I dare say you can, many of you at any rate, guess the one I would single out for the sake of clinching it, yet a little, once more. My name has been associated, especially in this region of Ontario, very intimately and honorably, let me add, with the name of a certain plant, so that I am familiarly known to many farmers in this London district by the title of "Clover Clarke." Well, I am rather proud of this title than otherwise. I have been called far worse nicknames than that in my time, and so, I dare say, have most of you! May I sum up, in very brief forms, the established convictions I have arrived at on this subject, and present them as a kind of legacy to this Association? I can assure you it is a legacy that will enrich every one of you, if you will only give it a chance to do so. Enlarged observation and longer experience have only served to exalt my opinion of this wonderful plant, and to deepen my sorrow that it is so little grown on Canadian farms.

Current Opinions about Clover. Farmers generally think clover a good thing to have in the land. They know it is beneficial as a green manure, plowed under in stiff, clay soils; and they also know that the decay of a clover crop leaves the land in a good state for a succeeding grain crop. But they consider it an inferior kind of hay, especially for horses, and do not care to raise it for sale, because it commands a lower market price than timothy. The general good opinion of clover as a fertilizer is correct, but the prevailing idea as to the inferiority of clover hay is erroneous.

Clover as a Fertilizer. It is of far more value in this aspect of it than most farmers suppose. From the fact that the roots penetrate very far into the depths of the sub-soil, it obtains nourishment never reached by most crops. Moreover, the roots act like pumps, and bring to the surface the plant-food found beneath. At the same time the leaves attract nitrogen from the air, so that there is a deposit from the earth beneath and from the atmosphere above, which enriches the top soil. Clover is the only crop which leaves

the land better than when it finds it. Even the ripening of its seed tends to enrichment instead of impoverishment of the land. These are indisputable agricultural facts, proved alike by chemistry and by practical experience.

Clover as a Sub-Soiler. The sub-soil plow about which so much has been said and written, is absolutely nowhere beside clover as a loosener of the earth. Its roots bore their way down, and when they decay, leave the soil porous and ready for the growth of the deepest rooted plants. The generality of farmers never could be persuaded to sub-soil much, mainly because it took two plows and two teams to do the work of one. Grow clover, and the sub-soil plow may be ranked among the implements of fancy farming.

Clover and Summer-Fallowing. What an amount of time, team work and hand labor has been, and yet is, expended on summer-fallowing, in order to kill weeds and improve the land by rest. All this is sheer waste. Clover will kill out the weeds quite as effectually as summer-fallowing, and enrich the soil more than two or three year's rest. Early mowing of clover cuts down all weeds, even Canada thistles, before they go to seed, and the aftergrowth of clover smothers the weeds to death. After cropping with clover two years. the land is in good shape for a wheat or any other grain crop.

Clover Hay. Clover is the best of hay, if properly made. It is generally cut too late, and spoilt by drying. It should be cut as soon as it is fairly in bloom. The old rule used to be to mow it when the heads were partly brown. That is too late. Start the mower and finish the job before a brown head is to be seen. Then, as to drying, it should not be dried at all. Never begin to cut until the dew is off. Never mow it when moist with rain, Start the mower when the dew is off and run it until noon or a little later. In the afterooon, shake it up with a tedder, or in the absence of that, with pitch-forks. Cock it up before night-fall. Haul to the barn next day as soon as the dew is off. Clover put in thus will heat a little; just enough to cure it, that is all. It will not suffer from its own juice, if there be no foreign moisture, dew or rain, upon it. Some leave it to cure in cocks, before carrying to the barn. The one objection to this plan is that the outside of the cocks will get sun-dried, become brittle, and cause dust, the great fault of badly harvested clover.

Clover Hay for Stock. If made as just directed, there is no better hay for all kinds of farm stock. Even store pigs will eat it and winter well on it. How good it is for milch cows, every dairyman who has tried it knows. There is no difficulty in having the best winter butter, if such hay is fed to dairy cows. As for horses, it is enough to say that E. B. Terry, a noted Ohio farmer, has a team that for the past six years has been fed on nothing else. They have had no grain, have worked all the time and kept in good condition.

Clover Pasturage. There is nothing like it for milch cows and beef cattle. The old proverb about being "in clover" is a true one. It is an excellent soiling crop, and, fed green to cows, keeps up the flow of milk admirably in a dry time, when the pastures are scant.

Grazing Hogs on Clover. An acre of good clover is worth more than an average acre of corn for hog feed. Do you think this extravagant? Take out your pencil and let us figure a little. Fifty bushels of shelled corn would be considered a pretty fair yield, wouldn't it? Twelve pounds of pork from a bushel of corn, is fully up to the average. That would give by over-estimating somewhat, say 500 pounds of pork for an acre of corn. An acre of fair clover will pasture eight hogs from spring to fall, and if we suppose them to weigh 100 pounds apiece in the spring, and to be of a thrifty breed, they will double their weight by fall. You may give each hog a handful of grain per day, and still keep the balance to the credit side of the clover.

How to Grow Clover. Prepare the land the previous fall, even to harrowing. Sow as early in the spring as you would on fall wheat. Sow it alone. Mix no timothy or other grass seed with it, if you would derive the full benefit of clover-growing. Sow about twelve pounds to the acre. Run the mower over the ground as soon as there is growth enough for a light cut. If you don't get any hay you will prevent weeds going to seed. The second growth, or aftermath, will give a crop of hay according to the soil and season. Next spring, mow as soon as the clover is in blossom. Mow in the fall for

a crop of seed, and when that is harvested, plow under the old roots and crown. Clover is a biennial plant. It usually dies out at the end of the second season. A field should never be in clover more than two years in succession. If it is used for pasture, the same practice is to be followed. Plow at the end of the second year, sow to barley the following spring, and to wheat the next fall.

Try It. Do not waste any words in argufying against all this, but try it. Take one field and follow the rules that have been laid down to the letter. If it fails, publish the failure to the world. If it succeeds, tell your friends and neighbors, that they may share your good management and good fortune.

It is astonishing how differently a composition sometimess develops from what you expected and intended at the start of it. Robbie Burns had some experience of this, for on one occasion, we find him saying, at the outset of a rhyme in which he was embarking,—

"Perhaps it may turn out a sang,
Perhaps turn out a sermon!"

Well, so far, I have not even broached the subject on which I intended to write when I sat down to this task! Of course, I cannot discuss it now. Let me tell you what it was and dismiss it with a story of which you can, each and every one of you, make your own application. I really meant to speak of the tendency to run too much into new-fangles in a general way; and especially, in connection with dairying. The story is entitled "O'Flynn's Poultry Experience." A short time ago I overtook O'Flynn on his way to to the town with a coop of poultry. "How do, Flynn?" said I. "Arrah, an' is that you, Brayme?" said he. "Where are you taking your Banties?" I asked. "Banties!" he shouted. "An' is it Banties ye say? Begorra, thin, do ye call that a Banty?" and he shook a nine-pound cockerel at me. "Flynn, I heard that you put a new-style ventilator in your poultry house, what is it and how does it work?" "Well," said he, "I did, and I may as well tell ye all about it. I dug a channel two feet deep through the middle o' me hin house to thirty feet beyant. Then I put in 3-inch tile in the bottom av it, an' made a little chimbley at ayther ind outen the same stuff. I got the idee out av a paper an' it said the air would flow in at the ind beyant, and get warrumed in passing through the poipe, an' thin the fowls wouldn't get their combs an' things froze, an' they'd be layin' eggs ivery day. I thought it was a mighty foine job, an' the first cowld spell that came along I shut up me house, nailt up me ould vintilators an' pult the plug out o' the poipe an' wint to bed. An' begob, the very first thing that flowed through that poipe was a big mink, an' he kilt thirteen o' me fowls. The next morning I took me ax an' I smashed thim chimbleys into smithereens, dumped a wheelbarrer o' dirt into the howls, opened me ould vintilators at ayther ind o' the house, an' moinded me own business iver since. But didn't the ould woman give me a great rakin'!"

The President: I am sure it must be a great pleasure to you to hear the Rev. Mr. Clarke relate his past experiences. I will now call upon Mr. Casswell.

Mr. Casswell: I am not going to make a speech. I desire to refer especially to one gentleman whom I am sorry to say is not here to-night—Professor Robertson. The information he could have given us had he been able to return from Europe in time would have been of great advantage. Professor Robertson is doing a vast amount of good in calling the attention of the British public and British investors to Canada as a food-producing country. I agree with Mr. Clarke in what he said about the desirability of having ladies at our meetings. I think there should be a night set apart when ladies should be invited to attend, and the subjects chosen be of special interest to them.

## THE FUTURE OF CHEESE AND BUTTER-MAKING.

Mr. J. S. Pearce, of London, read the following paper:

I have chosen this subject for the reason that I think and feel that it is a most important matter, and one that should not only be discussed at this Convention but agitated and discussed at all gatherings of cheese and butter-makers. The success or failure of the dairy industry depends to a large extent on the future cheese and butter-maker. On the success or failure of many cheese and butter factories will depend the skill and ability of that cheese or butter-maker.

I shall in this short paper address myself to both cheese and butter-makers, for the very good reason that a large number of our cheese factories will soon not only require a cheese-maker but a butter-maker also, and these factories, or the proprietors of such, are not going to employ two separate individuals to do this work. It will, therefore, behoove all progressive and intelligent cheese-makers to take up this line of dairy work and prepare themselves as competent butter-makers as well as cheese-makers. To become a competent butter-maker is not nearly so difficult, nor does it require the experience that it does to be an A1 cheese-maker.

But there are other things in connection with the work of a cheese and butter-maker that he will have to become familiar with, and not only familiar but proficient in. A number of these requirements I shall refer to later on, but there are two or three matters I want to call your attention to before passing on to these new lines of work and ideas. I want to sound a note of warning, both to cheese-makers and those who employ cheese-makers, on the question of proficiency and competency of those who undertake or who are employed to manage and run a factory. Many of these young men and sometimes old men are sadly deficient, and this deficiency is encouraged and winked at by those who employ these men, because they will undertake the work and take the risk for less money per 100 lb. of cheese than a fully competent man will do. These fellows will take the risk for they have nothing to lose. These who employ this class of makers loose sight of the fact that they are by so doing putting their own factory and the product of their factory on a par with the medium and second-class factories.

Chesse-makers and butter-makers may also be divided into three classes, viz.: Those makers who are striving by every means in their power to make the best and finest goods, and who are not even content with that but are incessantly trying to do still better. This class of workers are never content with what they are doing, but are anxious and willing to learn from everyone and anyone. Every intelligent maker will tell you that the more he knows about his work the more he wants to know, and the more he learns and knows about his business the more ignorant he becomes in his own eyes.

There is another class of makers who are making fairly good goods, and who seem to think they have reached the top of the ladder, and imagine that if they only make a cheese that will by "hook or crook" pass the inspection of the buyer they have done their duty. These cheese-makers will wake up some day and find that they are being left behind in the race, and they will wonder why it is, and blame everybody but themselves. If you criticise their cheese and try to bring the fact home to them that the trouble is with themselves, they will tell you that their cheese sells for market price which is sufficient in their eyes. But they forget the fact that if their cheese was up to the best fancy factories the price they would then get would be correspondingly higher. They seem blind to the fact that there is a wide range of both quality and price from the finest or fancy down to the point where the culling commences.

There is one more class of makers, but a few words will describe them. It is those who are so utterly lazy and shiftless that they don't seem to care what the result of their labor will be. You can tell them by their work and surroundings, and often before you see them. Their days as cheese-makers are numbered, and I am happy to say these men are becoming few and far between.

Now a man or woman in order to be an A1 cheese-maker possesses no ordinary amount of ability and intelligence, and those who are A1 makers may well feel proud of that ability and position. You may rest assured that there are scores of makers who never can nor never will attain this goal. The ability is not in them, and they never will get there.

But there are scores of other makers who, if they would only wake up to their surroundings and be alive and abreast of the times, would soon be making steps in advance. The dairy industry has made some very rapid strides in advance the past two or three years, and we shall see other very important changes within the next few years. Are the makers alive and awake and watching and preparing for these changes? The success or failure of nearly every factory depends upon the ability of the maker, but I often am amazed at the indifference of many makers to what is their own as well as the factory's interest.

But what about the future cheese and butter-makers? Skill is and must become more of the educational sentiment of all lines of business. There is just as much need of it in the dairy business as in any mechanical or manufacturing work.

Skill and brains are going to be very important requisites in the future cheese and butter-makers.

The future cheese and butter-makers will have to be A1 men in more ways than one. What I mean by more ways than one is, they will have to know more than the mere routine of making cheese or butter or even both. These will not be the only requisites that the proprietors of cheese and butter factories will require. The day is not far distant when a maker, to hold his position, will require to know and understand the principles that underlie his practice. He should understand the dairy cow, what she should be fed, how she should be fed, and how she should be cared for; how the milk should be handled before he gets it, as well as how to handle it himself. He should also be able to discuss, describe and impart this knowledge to his patrons, and by so doing get them up into a higher plane of intelligence and knowledge. He should also know and be able to tell and describe all about the milk he is taking in, and know its parts and ingredients. He should be able to handle the Babcock tester and Quevenne lactometer and all other dairy appliances. I tell you ladies and gentlemen there is a grand field of labor and usefulness in store for those who will prepare themselves for this work along these lines. How many of our cheese and butter-makers have given this matter any thought or begun to prepare themselves for this work? How many of our makers, for instance, have the tact and judgment to keep on pleasant relations with their patrons and yet take from them only perfect milk. It is one thing to tell an obdurate patron that his milk is "off the hooks" as to quality, but another thing to make him believe it, and still another thing to make him reform his ways and bring you better milk. Some patrons will argue that their milk is all right when they know better, and this is enough to raise the ire of a cheese-maker. But you have a duty to perform not only to the consumers of your product but to those of your dairy patrons who are not slothful. But your own reputation is at stake, and if you perform this duty by drawing a sharp line between bad milk and the good, and in your factory always keeping on the good milk side, your future reputation is assured. No maker can afford to disregard these principles.

Among the requisites and qualifications of the future cheese and butter-makers are the following:

Must be active, smart and intelligent with good address.

Will have to be a maker with years of experience, both in cheese and butter.

Will need a good fair education and a good knowledge of business.

Must understand the workings and be able to handle and manipulate the Babcock tester together with all the other dairy appliances of modern invention.

Must be a man of character and decision in whom all sensible and right minded men will have confidence.

Should understand human nature and be able to teach the ignorant, as well as know how to avoid giving offence to a conceited patron, and at the same time take the conceit out of him. This, with a certain amount of diplomacy, and with all this firmness and decision, which will bring him the respect of all.

He must himself learn many things that cannot be learned at school; in fact his thirst for knowledge should never cease.

Now to do all this he must be a man of natural ability, and always learning and reading and studying how to make improvements. Cheese and butter-makers you cannot stand still. If you do someone else is going to get ahead of you.

Now, as a starter, and sort of balancer for all these requisites and accomplishments, he must have a comprehensive dairy education, such as can be acquired at a *dairy school* and from reading and meeting with men who thoroughly comprehend the dairy business. I am aware that with hundreds of young men progress stops just as soon as they get charge of a factory. It is to them I wish to speak particularly, and I urge upon them the necessity of a higher education if they would not be left behind. The education of the man who will in the future command the highest wages must extend from the rootlet on the farm to the division of the proceeds among his patrons. He should be thoroughly informed of the value of the different foods for the production of rich milk, should thoroughly understand the characteristics of the various breeds of dairy cattle and their care, should also understand the composition of milk and the many conditions which combine to make it of the highest quality; he should understand a few of the simple truths of chemistry, and be able to demonstrate the same.

I have mentioned a long series of actual requirements for the butter-maker of the near future. If he would avail himself of constant employment and the highest wages he must give them careful heed. I have been asked many times if the different dairy schools would not turn out so many butter-makers that it would be almost impossible to secure employment? I cannot see it in that light, for the reason that among the many they turn out but few comparatively would be fit to put in charge of a public factory. There are many "lessons never learned at school," and among them is that practical factory experience so necessary to successful management. But these students have one great advantage, and that is a year's practical work reinforced by the knowledge obtained at the schools will make them successful competitors for the best places.

I would be glad to see every cheese and butter-maker employed at a good salary, but the conditions are the same as in every other trade or craft, and only the best can succeed. The day of concentration in dairy or creamery work is close at hand. The price for the manufactured product is regulated by the buyer, but the producer can regulate the cost to a certain extent, and this is the problem that will receive its perfect solution only through the trained hand and brain of the man who seeks to surpass. The next five years will find great changes in dairy work, methods and apparatus. Only the best men will have good places, and the average man who has no desire to better himself in his occupation will have dropped out and have been lost to the business.

## THANKS FOR A MONEY GRANT.

Mr. Pattullo: With your permission, Mr. President, I would like to move a resolution which I am sure will meet with the cordial approval of every member of this Association. I move:

"That the thanks of this Association be tendered to the Mayor and President of the Board of Trade of the city of London for their cordial reception and especially to the city of London for the grant of $200 which they have given to this Association."

I think this is perhaps the first time in the history of the Association when a grant of that sort has been made, and it is certainly a very handsome action on the part of the people of the city of London. I will not say that this is the place where the Association should always meet; I shall not raise that question now, but I can say that London is an admirable point for the conventions of the Association. I am sure that, notwithstanding, the unfavorable weather, this has turned out to be one of the best meetings of the Association.

Mr. A. McLaren seconded the resolution which was carried unanimously.

Mr. C. E. Chadwick, Ingersoll: Mr. President and gentlemen, you see before you one of the old guard, one who was present at the founding of this Association, and who has always taken a deep interest in its welfare. It has been a source of great satisfaction to me to notice the progress that has been made in the work of the Association, and in the development of the dairy industry, notwithstanding all the difficulties in the

way. I have listened with great pleasure to the addresses to-day, but none has given me greater pleasure than the open confession of the Minister of Agriculture, and the liberal spirit in which he has addressed us. I have always contended that a portion of the surplus which Ontario is supposed to possess could not be devoted to a better purpose than promoting the work of this organization, and I think the Minister of Agriculture has done himself a great deal of credit by the liberal way in which he has expressed his assurances of encouragement so far as the Government is concerned. I think the Government are entitled to great credit for the steps they have taken in other ways to promote this industry. The Agricultural College, the Travelling Dairy and other means they are taking to develop the dairy industries of this country show that they appreciate the importance of the work in which we are engaged. I also heard with great pleasure Mr. Pattullo's address with regard to roads. I do not quite agree with him, though I think his theory is excellent. I do not take any stock in the depreciatory style in which he speaks of our roads. He is a young man. I know what the roads are, and I know what they were sixty years ago, and I doubt if there is any country that has made greater progress in the matter of roads than Canada. He speaks of good roads in the old country. I travelled on one of them some years ago. I made forty miles in one day and I paid $1.50 in tolls. I never saw a better road, but with such tolls I should think they could easily keep the roads in excellent repair. I rose merely to express my pleasure at being present at this convention, and meeting so many engaged in the dairy industry, and I hope that you will receive such benefit here that you will feel that your time has been well spent.

The meeting then adjourned.

## SECOND DAY—MORNING SESSION.

The President called the meeting to order at half-past nine o'clock.

## THE BABCOCK TEST IN THE HOARD CREAMERIES.

Hon. W. D. Hoard, of Fort Atkinson, Wis., was introduced and delivered the following address: Widow Bedott says in very graphic and striking language that we are all poor critters. Sometimes we begin to think that we are of importance, that we are something tremendous, and along comes a snow storm, or something like that, and takes the tuck right out of us. If there is anything that will make a man feel his true measurement, it is to be storm-stayed in a snowdrift, as I have been. This past year has been a very instructive one to us in dairy work. I begin to feel as if I would like to live a thousand years to study and to put myself in contact with the wonderful revelations of intelligence which are coming to us all the time. One thing is certain—we have entered upon the most interesting period in the history of our dairy work. The ways have been cleared and things are in better shape than we have ever seen them, and it is a very comforting thing to know that we may come over here and that you may come to us, each helping in the progress of the other, and that this is a kind of exchange upon which no tax can be levied. Now, you are a great cheese-producing section; so is Wisconsin, and we have been studying along the lines of improvement in dairy work, and, though we have not induced our people to accept everything proposed, still we are making progress. I wanted to be at your meeting last year, but I was speaking at the Creameries' Association and could not get here. We find that Canada is right up alongside of us in this matter of improved dairy work. We have all been struggling to get good milk; that is the great foundation question. I want to give you a little record that you can take home to your patrons. The Hoard Creameries started in April, 1891, to divide the money paid to patrons upon the basis of the Babcock test. We had taken the test by other methods for four years—the Hoard Creameries were started in 1887. We tested every man's milk, and knew the average richness of it from 1887 to 1891.

And in one month's time there was an increase in the richness of the milk that was marvellous. The Babcock test clears away what you may call the personal equation, it clears the moral hazard of this business. Insurance companies tell us there is a certain moral hazard in their business. So there is in ours, but this system eliminates it. The dividends at once rose, because the patron gets credit for what is contained in the milk. Under the other system he gets credit for what he can get. Now, take the difference between what you can get and what you ought to get, and it sometimes makes an important percentage don't it? Now, for six months, from April to November, the increase in the fat of milk in the Hoard Creameries amounted to almost one-third of a pound of butter in one hundred pounds of milk. Now, we have been running this test system for nearly two years. The effect upon our patrons and upon the cows is so marked that December milk is richer than it ever was before, by nearly twenty-five per cent. The patron is becoming more honest to himself, more honest to the cow, more honest to the creamery, and more honest to his neighbor. That means better care, better housing, better attention. At a meeting in Waverley, Ill., an old gentleman jumped up and said, "The Babcock test beat the Bible in making a man honest. I have been quoting Scripture to my people for years and could not improve them. I put in a Babcock test and everything came right to time." Human nature is human nature. We are all poor critters, as I have told you. Now, the difficulty is to get the patron to see this point. Everything waits upon him. The whole progress of our dairy work, my friends, waits upon the man who makes the milk. I do not think we realize, as creamery and cheese factory men, the importance of educating and stimulating our patrons. I have tried to educate my patrons, and I think I have some educating ability, and nothing ever did it like the Babcock test. One of my patrons, an old German, came to me once and told me he thought the Babcock test was a humbug. "How can you," he said, "take a little milk like that and tell all about the milk I bring in?" I said to him, "If you take a pound of gold to the United States Mint,"—"But," he said, "I never had a pound of gold." "But if you had and took it to the mint, do you think they would test the whole piece? No; they would take off a little chip and assay it and would pay you according to the value of that assay." When we test milk in this way, we are not running one-half the risk they run with gold. I said, "Trust me; this is an honest thing; the first honest move we have ever made." A few months ago the old German came into my place and said, "You remember I spoke about that Babcock test; I said it was a humbug." "Yes," I said. "Well, do you know what I think? I think I was a humbug; I never made so much money out of my cows before." It is necessary for us to keep a mind open to receive the truth. "Except a man become like a little child he can in no wise enter the kingdom of Heaven," said the great Teacher, and it is the same with the kingdom of mathematics, or mechanics, or dairying. We must become teachable in order that we may learn.

## THE DAIRYMAN AS A MANUFACTURER.

C. C. James, Deputy-Minister of Agriculture, was called upon and read the following paper: Explorers have told us that the aboriginal tribes of North America, South America, and Australia, who depended for their living simply upon the results of the chase required on the average 20 square miles to each inhabitant. In the most primitive condition, therefore, prior to the cultivation of the soil where living is derived simply from the wild animals and the product of wild vegetation, Canada, with her 3,500,000 square miles of territory, could sustain about 175,000 inhabitants. We are further informed by those who have studied the distribution of peoples, that in the case of a pastoral people, 100 to 150 persons are able to sustain themselves upon 20 square miles; that in the state of primitive agriculture and the domestic handicrafts between 2,000 and 2,500 are able to sustain themselves upon 20 square miles; and that in the most developed systems of agriculture and advanced industries, 6,000 persons are able to sustain them-

selves, on the average, to every 20 square miles. If Canada were uniformly inhabitable we should find the following to be the population that could be here sustained at the four stages of national development mentioned:

| | | |
|---|---|---|
| 1. During the hunting age | | 175,000 |
| 2. Pastoral | " | 25,000,000 |
| 3. Agricultural | " | 400,000,000 |
| 4. Industrial | " | 1,000,000,000 |

Now, allowing for the large portion that is practically uninhabitable, and for the regions that are inhabitable to but a limited extent, we may conclude that we have in Canada, under the present possibilities of living, room for over two hundred million people. The development of agriculture and other industries may greatly increase the productive capabilities of civilized countries, and thereby increase the possibility of crowding.

Japan, China, and the Netherlands have highly advanced systems of soil cultivation and crop production; their density is as follows: 271, 289 and 361 persons, respectively, to the square mile. England has a population of 541 persons to the square mile, and thus we see has taken a long stride beyond the limit of 300 to the square mile referred to above—in this fact we see why it is that England demands food of the other countries. The crowding together of the masses into the great island workshop of Great Britain has brought into prominence two questions of paramount importance to the British millions, first, how to get food; second, how to get rid of it. Canada is helping to supply Britain with food, and the members of this Association are specially interested in the supplying of one important article in the list of food products demanded by the British workmen, and that article is *cheese*, the production of which is the main subject for discussion by this Convention

The farmer is not usually considered as a manufacturer; but I think we are warranted in saying that the man who out of the air, rain and soil produces a bushel of wheat is as much a manufacturer as the man who grinds the wheat into flour or as the man who turns the flour into bread; the man who grows the wool is a manufacturer just as much as the man who turns the wool into cloth; the man who converts grass and grain into milk is as much a manufacturer as the man who converts the milk into butter or cheese. We usually find the word manufacturer applied to those who take the products of the work of the farmer, the woodsman, the miner and the fisherman, and by the use of machinery to a great extent, converts them into articles ready for the use of man.

Let us take a definition of "to manufacture"—here is one from The Century Dictionary: "The production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand labor or by machinery." Can any reason be given why that definition does not include farming, whether we apply it to dairying, stock-breeding, fruit-production, or grain-growing? To manufacture, by the derivation of the word, is meant to make or work over by the hand, and surely the farmer will take rank with any man as a hand worker or a laborer with his muscular powers. The more we look into this phase of the question the more decided will we become that not only is the farmer the oldest manufacturer, but he is also the most important manufacturer, and let us hope that he will become more and more the most respected manufacturer.

From the somewhat simple elements of the air, and the rain that falls through the air, from the constituents of the soil—some ten in all—he builds up his plants by the aid of the forces of nature; from these plants as food he derives the milk, and from the milk he makes the butter and cheese; through these various processes he works out changes that are so far superior to many of the very, very simple changes wrought in ordinary manufactories that we ought to place the agriculturist at the head of the list of manufacturers. I propose to discuss the operations of dairying from this standpoint of manufacturing, and endeavor to draw a few general conclusions that may be of some service in this work.

This is essentially an age of manufacturing; the discoveries of science and their applications to work, the increase in transportation facilities, the development of the press—these and many other causes have set up a great movement toward our manufacturing

towns, and through the force of circumstances, through keen competition and the rapid rush for wealth, through education and training, manufacturing has been developed to a wonderful extent, and experience has shown that certain definite lines of action must be strictly adhered to in order to achieve success.

The decision being reached that dairying from start to finish is a form of high-class manufacturing, should we not conclude that these same definite lines of action that have proved necessary for success in other lines of manufacture must be followed out and strictly adhered to to make dairying a success.

### Capital.

(*a*) Capital should not be wasted or used to pay dividends.
(*b*) Capital should not be utilized or made to work.
(*c*) Capital should be gradually increased.

The farmer's capital consists mainly of his land, his buildings and his stock. If the land is becoming less productive, if the buildings are falling into a state of ill-repair, if the stock is degenerating, then the farmer certainly is living upon his capital and bankruptcy will be the inevitable result. Success in business indicates that the land should be kept under crops as much as possible, crops of the highest quality, that the stock should be kept at work as much as possible, that they should have the best of care, that the manure should all be preserved and returned to the soil, that the product sold from the farm should be reduced in quantity but improved in quality, that is, it should be concentrated, high grade, high-priced—that the general aim should be to return to the soil as much as possible, and to get financial returns from products that will deplete the soil or reduce the capital as little as possible. High class dairying meets these requirements Every load of hay or grain that is driven to the county market represents a portion of the farmer's capital. If that grain and hay be fed to produce milk, which is sent to the city or town, the capital disposed of is largely reduced. If out of the milk the cheese alone is sold and the rest retained the loss is still less. If, finally, only the butter is extracted and all else retained the loss of capital is reduced to a minimum.

If in addition to this reduction in the loss of capital a thorough system of underdrainage is undertaken, the ground kept well worked and clean, the fertility of the soil must materially increase, and the farmer who pursues the thorough practice will find in taking stock from time to time that his capital is constantly increasing and the ever-growing improvement will be seen—better land, better crops, better food, better stock, better products, better manure—the limits of improvement will to a great extent be in the control of the farmer himself.

Let me consider this question in another form :

(*a*) Capital is wasted or depreciated when the land is left exposed to the surface washings of rains, when the liquid manure is allowed to run away, when the manure pile becomes overheated, when crops are improperly harvested or improperly cared for after harvest, when food is wasted in feeding, when fences and buildings are allowed to fall into decay, when machinery is left out exposed to the weather, when the stock are not properly housed, when the hay and grain are sold off the farm and nothing brought back to take their place, when the whey is allowed to sour before feeding, when the refuse from the house is not utilized, when the orchard prunings are not burned and returned to the soil when the potato beetle, the codling moth and the curculio are allowed to live at will upon the farmer's capital.

Some might say that a more serious depreciation of capital takes place when the farmer's boy carries away to the machine shop, the store or the office of the city profession a supply of muscle and brains that properly belong to the farm.

(*b*) Capital is not all utilized when owing to lack of drainage the *under-acres* of the farm are contributing nothing, when the weeds are fighting with the domesticated plants for the limited supply of available food, when unsightly stone piles lie in the centre of fields instead of at the bottom of good macadam roads, when crooked and unnecessary fences sprawl about in all directions, when brush and rank bushes are found at every turn,

when the exclusion of the air owing to incomplete cultivation prevents the rocky constituents of the soil and the manure from becoming available as plant-food, and when the cow after a limited shift of half-hearted work is allowed to chew the cud of indolence for several weeks or months.

(*c*) Capital is increased by bringing into operation all the soil, surface and subsoil, by a scientific rotation of crops, plowing under clover and other crops that feed largely upon the air, by retaining as much manure as possible to the soil, and by the judicious purchasing of concentrated foods, as oil-cakes, bran, etc., to be consumed upon the farm.

The business man takes stock regularly. So should the farmer, in order that he may know what defects should be amended, where he is losing ground, and where he is making progress; in fact, that he may know exactly where he is standing.

### Machinery.

The manufacturer keeps in mind two points:

(*a*) The machinery must be the best that can be had.

(*b*) The machinery must be well cared for.

The use of machinery and labor-saving devices is characteristic of this age—this age of factories. The developments of science, the applications of the power of steam and of electricity, have revolutionized methods of working. The improvements of the means of transportation and the cheapening of the same have made the civilized nations neighbors and have even brought the barbarians to our doors. Agriculture is just feeling the effects in its methods of working. There has been a greater development in the transportation of grain than in its production. What the farmer needs now is help to grow and handle more with less labor; and these improvements are coming; agriculture must soon feel some wonderful developments. For fifty centuries the curved sickle remained unchanged; then came the cradle, the mower, the reaper, the self-binder, and we have heard of a combined reaper and thresher working in California. The primitive goat-skin hung to the ceiling and swung to and fro with its load of milk is still to be seen in the East, but we talk now about milking machines, centrifugal separators, power-churns, butter-workers, blending-machines, extractors, and we even analyze the milk by the turn of of a crank and the whirl of a glass bottle.

Last of the manufactures, agriculture, especially dairying, seems to be about to receive the blessing of improved machinery, which will lighten work, increase results and give a higher *status* to the occupation. Within a few years it may be possible for the farmer to spread his wind-mill to the moving air, and store up the power electrically to be drawn off at will to pump the water, to cut the hay and straw and crush the grain for his stock, to ventilate his stables and perhaps assist in cleaning them, to milk the cows, separate the cream and churn the butter, to send the water to his house and lawn, to warm the home, to do the cooking, and throw out a light whereby he may sit down in the evening to read the agricultural news of the world as does his brother manufacturer in the town and city. Why should he not?

Let me refer to one machine, more highly wrought, more delicately strung, more wonderfully put together than any loom, or press, or smelter, or still—the cow. From a bundle of hay, a measure of meal, a basket of roots or silage, and a bucket of water she produces a pail of milk. Where is the machine of shop or factory that can equal her?

(*a*) She should be the best that can be had. The average cow produces about 4,000 lb. of milk or 160 lb. of butter in the season. In 1891 the Jersey Signal's Lily Flagg gave 1,047 lb. in the season of 339 days, and the Holstein Pauline Paul gave 1,154 lb. in one year. What a lot of poor machines, that is, poorly paying machines, there must be in Ontario! What possibilities of development lie before the dairymen in improving these living machines by breeding and selection!

(*b*) This cow-machine must be cared for. There is no machine known that gives a larger cash return for good treatment than the cow, the production of milk and nerve energy being mysteriously but most intimately connected. Clean water, clean stable, clean air, clean skin, clean food are absolute requisites for clean milk. Exposure to

inclement weather will wreck a fine machine—it will do the same to a fine cow ; dirt and filth will clog up and destroy a mechanism of wood and metal—it is as destructive to this mechanism of flesh and nerves ; a steam engine in a gale or blizzard will eat up more food to do its work than if properly protected—so will a living cow.

The effect upon the man who handles the machine is perhaps the most noticeable ; the navvy who is careless of his toils, who grubs in the earth simply to earn a dollar or two in the easiest way possible, is not to be placed upon the same footing as the man who is unceasing in his attempts to keep his engine bright and clean and in good working order. The man who takes the best of care of his stock is apt to have his ideas of life improved and to endeavor to improve his own way of living, because of the higher plane on which he works and along which he thinks.

### Economy in Manufacture.

Formerly much was heard of *waste*-product ; now we hear much of *bye*-product. What once was wasted now pays the dividends. The utilization of the refuse material is to-day one of the most striking characteristics of manufacturing. Contrast the extravagant carelessness of the saw-mills of fifty years ago with the close economy of one of our large modern mills. Many of our rivers were polluted with the accumulation of saw-dust, bark, slabs and water-soaked logs. Now everything is worked over into something useful—planks, boards, strips, window-blind sticks, pail staves, match boxes, matches. Even the sawdust is burnt and distilled to obtain valuable chemical compounds that are marketable. Once the fibre was the only product of the cotton plant that was used ; now we have fibre, cake and oil. The piles of refuse iron slag are being utilized as a fertilizer, basic slag, contributing a valuable phosphate. Apples are evaporated and the cores and skins made into jelly. The great packing houses of Chicago and the West pay their dividends out of the "offal." The flesh, livers, hearts, tongues, tails, etc., are sold by the butchers for food, the bones are sold to the cutler or ground for bone meal, the entrails are used for a variety of purposes, the hoofs and bones contribute glue, the horns, after giving up their glue, are unrolled and sent to the horn workers, and the blood is dried and made into a very valuable fertilizer. Waste furnace gases that once polluted the air are now utilized for the production of ammonia and tar compounds. Coal tar that once was rejected as a nuisance now gives us magnificent dyes, valuable medicines, effective disinfectants and many other compounds, such as saccharine, that are interesting and that will some day be of much value.

Manufacturing confirms the wisdom of nature's order "Waste nothing." The waste of manure in Ontario can be estimated only by millions of dollars ; the waste of food is undoubtedly large ; the waste of the bye-products of dairying, such as butter-milk and whey, through souring, is well known to you all. When whey sours what happens ? Principally this : The sugar of the milk changes to acid, a change from a valuable food to one almost valueless.

### The Market and Prices.

The manufacturer studies the markets and produces what the market *demands* ; he also endeavors to put his goods upon the market when the prices are high and avoids over-stocking. I think the dairymen of Ontario are realizing more and more that cheese and butter will sell on their merits, and that the extension of this trade depends almost entirely upon *quality*.

### Conclusion.

The manufacturer places in his factory the most skilful men he can hire, men who have special training and qualification, even if he has to pay higher wages ; he takes the papers and journals that are devoted to his line of business ; he welcomes science and scientific investigation to assist him in the development of his work ; he meets with his fellow-manufacturers and organizes societies to discuss the questions relating to his calling ; he asserts the importance, the respectability and the dignity of his trade or calling ; he demands to be heard and he *secures his rights*. Let the farmer, let the dairyman follow his example.

Hon. W. D. HOARD: I want to add just one practical word to the excellent line of reasoning Mr. James has given you. I knew a man in Wisconsin, named Charles Phillips, who, in twenty-eight years, amassed one hundred thousand dollars in straight farming. I asked him once to what he attributed his success. He said: To the fact that I never was able to do a day's work in my life. He had been afflicted with shaking palsy from boyhood. He said: I want to explain that. At a very early period in my life, I realized that I, as a farmer, was a manufacturer and that I must make my profits, like a manufacturer, from the labor of other men, for one pair of hands never made a man rich. My farmer neighbors about me were constantly figuring how they could escape hiring help; I figured how I could hire more and more. I found that I was big enough to handle two hired men and commenced at once working these men. Then I found I could stretch the skin of my mind so as to take in another hired man. (I have often thought about that: "the skin of my mind"—he was a quaint old fellow.) Then he said he took another hired man. He found that it required larger apprehension to handle four men than two. He went on until he had fifteen hundred acres of our finest land, a capital of one hundred thousand dollars and employed twenty-six men. He was the first man to sow clover. He sowed clover with everything he sowed. I just added this word to show the truth of what Mr. James said that the farmers are manufacturers.

Mr. WOOLLEY: It is a lamentable fact that in this country, at any rate where I live, the farmers will not hire any help in the winter. I believe that one great reason why so many men from the rural districts have left this country is because we have so many farmers who do not employ winter help. The men do not make enough in the summer to carry them through the winter.

Mr. HOARD: Winter dairying will box the compass of that proposition.

## A TALK ON MISCELLANEOUS MATTERS.

Prof. SAUNDERS, Director of Experimental Farms, Ottawa was then called upon. He said: I feel as if I occupied a rather unusual position this morning. I had no idea of being present with you until four or five days ago, when a telegram arrived from Prof. Robertson stating that it would be impossible for him to sail until to-morrow and that some arrangement should be made to look after this meeting. I at once consulted with the Minister, and was pressed into the service as a volunteer. I am not a specially practical dairyman. Having to cover the whole Dominion in order to keep all the Experimental Farms in running order, I do not give the attention to special studies which would enable me to go into technical details among experts such as I see before me, as Professor Robertson could do. I wish, at the outset, to refer in a few words to the object of Professor Robertson's visit to the old country. Most of you are aware that John Bull has his prejudices, and, in order to remove them, you must meet him in the right way. Professor Robertson has a smooth tongue for getting around difficult points and he has gone over there with a view to addressing the people who handle large quantities of dairy produce to discuss this matter quietly with them and try to convince them that our Canadian products are to be preferred to any other except those made in Britain itself, which always command a higher price than imported articles. In a letter lately received from him, he expressed the hope that he would be able to sell a large consignment of Canadian cheese at from one to two shillings more than any other Canadian cheese bought. Our cheese, as a whole, are held in high esteem in the British market. I see by your programme that the farmers of Canada last year realized 9-10 per cent. a pound more for their cheese on the average than was received by the farmers of the United States. That would represent a total, I fancy, of probably $500,000 on the export of Canada. Professor Robertson has made the way tolerably smooth with regard to cheese, but he has a much more difficult problem to handle in endeavoring to convince the British public that Canadian butter is good. As most of you are aware, some of the vilest mixtures that could be got together under the name of butter have been sent over to the British market, until the very name of Canadian butter was enough to raise objec-

tions in the minds of dealers to even looking at samples. Last year when the first shipment of 12,000 pounds was sent over from the creameries in Woodstock and Mount Elgin, Professor Robertson did his best to get the newspapers to speak favorably of this shipment. In one of the newspapers he did succeed in getting a little paragraph in the absence of the editor, but the editor afterwards wrote an editorial to the effect that he did not take any stock in this remark in the other part of his paper. The trade in Britain hesitate to handle Canadian butter even when good samples are shown, because they fear that the supply will not be kept up. Professor Robertson has been before the Boards of Trade of Liverpool, London, Glasgow and other places, and, from all we can learn, he has made a very favorable impression with regard to Canadian butter as well as Canadian cheese All that remains now, is for the farmers in this country who are supplying the material for the creameries to see that the material is of the best quality, remembering what Mr. James has been saying that the farmer is a manufacturer. I was much interested in the remarks of Mr. James, and in the admirable way in which he put his ideas before you. The idea of our being able, within the next generation to produce such a supply of butter as to overstock the market is out of the question altogether. The insignificant proportion we send to Great Britain shows that we might go on increasing our output many times over without any danger of over supply. Another point touched upon by Mr. James is that by improving the quality we may increase the consumption. There are hundreds of people in Ontario who would like to use creamery butter, but who find it difficult to procure it. I often get letters from parties asking where they can get creamery butter, as they find the article they buy in the market is not up to the mark. They are willing to pay a good price. I hope that in a short time we shall cease to make bad butter in Ontario and that there will be a steady demand for all the good butter that we can produce. I may be able to give you a few items of information with regard to the arrangement for the exhibition of dairy produce at the World's Fair. No doubt this is one point Professor Robertson would have touched upon had he been here because he has had this in his special charge. I suppose you have heard of the big cheese. I think nothing has been done during the last five or ten years that will so advertise Canadian dairy products as the big cheese. We have been keeping quiet about it, because if we had advertised it, no doubt we should have had a bigger cheese from Wisconsin or some other State. Plans were made to produce a cheese three or four times as large as any ever made in the world before, and then keep it quiet until it was too late for anybody else to come in and do better. Mr. Ruddick, the man who is principally concerned in making the cheese, is here and can give you full details. It was made in September, I believe. After it had been made and got into position, several friends visited it from the other side. One gentleman came up from New York State especially to find out all about it. I suppose he concluded it was a little late in the season to repeat the experiment on a larger scale, as we have not heard of a bigger cheese from that State. The cheese weighs over 22,000 pounds and, to provide for its being uniform, it was necessary to make a steel cylinder, because we found that wooden staves would not stand the pressure it was necessary to bring to bear upon such a mass of curd. So a steel cylinder was made 5-10 of an inch thick and, when strongly riveted, this was found sufficient to stand the pressure. The measurement, I think, is 9 feet diameter and 6 feet high. There have been made besides, about half a dozen cheese of 1,000 pounds each to set along side the big one and Mr. Ruddick has made a series of cheese running from that size down to about the size of a hickory-nut. When I was in Chicago a few weeks ago I visited the dairy building and found it would be a very inconvenient matter getting so large a cheese into the building, the doors not being quite wide enough. We didn't like to ask them to pull down part of the dairy building, so it was arranged to put this cheese into the agricultural building, the entrances to which are very capacious. It will occupy a prominent corner there. We have also a space of 760 square feet of table and bench room in the dairy building for the display of cheese from the Dominion. They are providing a separate building for the judging of cheese, and Professor Robertson's plan was to take all our prize cheese—because we expect to get prizes there—and group them on our limited area to represent the important dairy centres of Ontario and Quebec, thus making a national exhibit that would attract attention to

the dairy products of this country. There have been provided about 200 cheese, I think, of the make of 1891 and of last year's about 1,000 cheese. These have been purchased from the dealers at a uniform price, the market price, and they are being stored in cold storage in Montreal and they will be sent forward at the opening of the exhibition, or as soon after as is desirable. The arrangements for the exhibit of cheese provide four distinct periods of exhibition. For instance, in June there will be an exhibit of June cheese including cheese of the previous year and going back as many years as you like, if you want to exhibit the good keeping quality of the cheese. We shall not go back further than 1891. Then there will be another exhibit in July, another in September and another in October, and Professor Robertson is making arrangements which will enable us to bring before the world at that exhibition the high quality of Canadian cheese. We expect to have 400 cheese from Canada at each of these periods of exhibition. I feel certain that we must come off with flying colors. Our climate and our productions are not as well understood, even by our near neighbors across the line as they ought to be, and we want to show that we have a great country and one especially adapted for producing the highest qualities of agricultural products, well adapted everywhere for dairying, and affording room for the unlimited extension of this industry. When I found that I was to speak to you, I began to think what I could say that would be to your greatest advantage and it occurred to me that I might talk to you for a little while about some points in relation to making farming a greater success than it is. I had jotted down quite a few things, but as I listened to my good friend Mr. James, I found one after another of these notes used up, so that there is very little left for me to say. We find that in every department of business the successful man uses his brains and brings to bear the information he has obtained in the study of his profession so as to use his stock-in-trade to the best advantage. The farmer has a rather complex stock-in-trade. The soil forms the greater part of that stock-in-trade, and this he has to understand so that he may use it advantageously. He has also his live stock and many other items which he must use in making his living. With regard to the soil, most of you know that it is the result of the grinding up of the rock material which formed the earth's surface by exposure to the elements by which the ingredients are rendered soluble and having added to it the remains of decomposing animal and vegetable matter. The farmer is able, by judicious manipulation of this material to place it in the best condition for receiving the seed, and for imparting to that seed the necessary food, which must vary with varying seasons. Many farmers think that if they can get a chemical analysis of the soil and find out how much phosphoric acid, how much nitrogen, etc., the soil contains, he can learn exactly what crop can be sown to the best advantage. But that is only partially correct. Chemical analysis shows what the soil contains, but it does not necessarily follow that all is available for plant food, because only those parts that are soluble can be taken up and incorporated with the plant. If it were not so, the soil in many cases would be robbed more rapidly of its plant food than it now is, because you know there are some people so greedy that they will take everything they can from the soil and give nothing back. But this process must be gradual, and every year the elements make a certain portion of the elements of the soil soluble and available for plant food. This is one of the great elements which enables a skilful farmer, as Mr. James has said, to take a farm which has been run out by improper treatment and bring it back to a state of fertility. Our experience in the Experimental Farm in Nova Scotia is just in point. We first bought one good farm, the adjoining farm to which had been very badly farmed so that it had been in the market several years without finding a purchaser. This farm was bought for about one-quarter the price of the other. By drainage and fertilizing the land has been brought up so that it is now the best part of the farm. This demonstrates to the people of that part of the Dominion that land which is very poor can, by proper care, be brought into such a state as to afford its owner an excellent living. Having his farm, the farmer must consider, in the next place, what he is going to produce from it. If he is going into stock, he should be very careful in the selection of his animals. There is more importance in the selection of the individual animal than in the choice of breeds, for the ordinary farmer, as a rule, cannot keep thoroughbred stock. They are more expensive to buy and they require more careful treatment to keep them in condition than

other animals. With care he can choose grade cows that will give him about as good results as many thoroughbred animals would. In fact, on the Experimental Farm we have found more difference in animals of the same breed as to the yield of milk than between the different breeds. Holsteins we found to vary very much in the quantity as well as the quality of milk of different animals, and, in fact, the same may be said of other breeds. Every farmer should look closely into the subject of the yield of milk he gets from each of his cows. This is very commonly neglected. If a merchant were to carry on business in that loose way he would go to the wall in a very short time. The farmer who neglects this may blunder into more or less profitable lines, but he does not get along as well as if he kept exact account and got rid of those animals that did not prove profitable. The same idea may fairly be extended to the seed the farmer sows. There is as much individuality in every kernel of wheat or barley as in the different cows that are ranged side by side in your barns. I have been very much struck during the past two or three years in studying a series of new varieties of barley we have been producing at Ottawa and observing the strength and individuality in the different kernels of grain. In 1891 we succeeded in Ottawa in cross-fertilizing kernels of two-rowed barley with six-rowed barley. The result with grain gives very different results with difierent kernels. Some show the purely two-rowed and some the fully-developed six-rowed, but there are scarcely any two seeds that will produce the same form and quality of head and the same relative size of kernel, showing that each kernel has its own individual character as clearly as you find it in the animal kingdom. I read in one of the leading newspapers a letter from a gentleman on the subject of barley in which he made the statement that you could not grow two-rowed barley and six-rowed barley in adjoining fields without the two varieties hybridizing to such an extent that both would be spoiled. I suppose he had got this information sitting in his office and thinking the matter over. The fact is that scores of people have endeavored by the most careful experimenting to bring about this crossing and very few have been successful. I lately heard from Mr. Henry L. DeVilmorin, who was one of the greatest living authorities on this subject. He has tried repeatedly to effect this cross and never succeeded. There is only one other success besides our own recorded. It is believed by some that such hybridizing is quite impossible in nature, and that every kernel of grain in every head of wheat, barley and oats is fertilized by its own pollen. That is one reason why these varieties of grain are liable, in process of cultivation to run out and why it is necessary to give them the advantage of a change of soil. Now, the farmer can control the selection of his seed, the selection of his implements, the selection of his animals, and, to a great extent the selection of his soil. But there is one thing that he cannot control and that is the weather. We have our weather prophets who can tell us what the weather will probably be, but they cannot make the weather to suit us. The weather during the time of the flowering of the grain is a very important element in the crop for the year. There is a very delicate little organ of juicy, fleshy character called the pistil, which grows in the centre of the flower. This is surrounded by the other organs which bear the pollen. If it should happen that during the period when the pistil is in its critical state there should be dry winds it will dry up and cannot be fertilized, and after having such weather, if you examine a head of grain you will probably find that every third kernel is wanting in the head all the way up, and you will find that of different varieties grown under similar circumstances, one is plumper than the other. That is due probably to the fact that one flowers later than the other and thus escapes much of the dry weather. This point is deserving of study, because by understanding it thoroughly we can choose varieties of grain which will come into flower at the time when they are most likely to escape injury from hot weather. The more variety the farmers can make in his crops the less likely is he to have a general failure. In order to get the soil into a proper state, it is very important that the farmers should produce on the farm those fertilizing elements that the soil requires, and there is no class of farming so well enables him to do this as dairy farming. Many farmers believe that the land they have will enable them to keep only a few animals, but it is found that by attention to ensilage and to the growing of crops suitable for this purpose, the number of animals to be kept upon a given area can be greatly increased. The production of manure is only one point, however, the saving of

it is a matter of equal importance. Many farmers lose half the value of their manure heaps by injudicious handling. No rule can be laid down as to covering which will apply to every case. So much depends on the proportion of horse manure and cow manure as to whether the heaps should be covered or not, for this will affect the proportions of phosphoric acid, nitrogen and potash in the heap. The manure of the sheep stands highest in its fertilizing constituents, the hog next; the horse stands ahead of the cow and the cow last. The fermentation of cow manure goes on more slowly than that of the others, hence it is better that it should be kept covered. If the pile is composed mainly of horse manure it should be kept uncovered, as it requires the moisture it gets from the rain to keep it from fermenting too rapidly, for in this process of fermentation a portion of the ammonia escapes. Another point is how this material should be applied. The best plan is to apply the manure fresh to the land. We have had experiments carried on with 1-10 acre plots for five years, part treated with rotted and part with fresh manure. On the whole we find the results to show more favorably for the fresh manure. There is a saving of handling, a saving of the space which the keeping of a manure heap involves, and a saving of forty per cent. in the weight of the material. This is probably due to the fact that the liquid proportions of the manure are more rapidly decomposed than the solids. They contain more nitrogen. Where ammonia is being freely given off in fermentation these valuable constituents are being lost and lost mainly from the liquid portions. If the farmer takes pains to feed the soil, he will find that the soil will give him good returns. By learning all he can about these elements with which he has to deal, he increases the return of his labor. It is to help the farmers of Canada in this respect that our work at the Experimental Farm is carried on. In connection with this work of spreading information, I would like to say that we are especially glad to give the results of the work on the Experimental Farms to every farmer who cares to have them. They are not distributed broadcast, as they are expensive to get up and we do not care to put them into the hands of those who do not wish to have them. But any farmer can have these publications sent to him by sending us his name and address. I thank you very much for the kind hearing you have given me and I trust to continue to do something to assist in developing the dairy and agricultural interests of the country.

Mr. CLARKE: I would like to ask what experiments have been made in covering manure, and with what results; also what are Professor Saunder's views of the use of clover as a fertilizer?

Mr. SAUNDERS: The experiments in regard to covering manure are very limited. We have about 15 horses to about 60 or 70 head of cattle, therefore our manure heap requires all the moisture it can get from the rainfall in order to rot it thoroughly. I know there is a good deal of difference of opinion as to how manure should be treated, but as we have found the fresh manure so efficacious, we have not had large accumulations of manure. We have tried clover and have found it exceedingly useful, but we have peas of more immediate practical value in fertilizing the soil. After taking off the crop of early ripening wheat or barley, we can sow a crop of peas as a catch-crop which will prepare a certain store of material that would be otherwise unavailable. It will lay up a large supply of nitrogen taken from the air having that quality in common with clover. You cannot do better than use clover if you have the land in clover and wish to plow it under, but we have not had much of our land in that condition until this last year, for the reason that it was all broken up the first two years in clearing and getting it in order. We have experimented with it and are quite satisfied with the value of clover, but we find peas easier to handle and surer in returns. The use of catch crops in Germany and England is very common. The idea of having the land bare at any time of the year is held to be evidence of poor farming. The best farmers try to keep the land covered with something the whole season. During the latter part of the year there is a large proportion of ammonia in the atmosphere, arising from decaying animal and vegetable matter, and this is carried to the earth by the rainfall, is taken and stored up in the tissues of the growing plants. A considerable part comes from the manure heaps of too careless farmers.

Mr. ELISHA TURNER: I would like to ask Professor Saunders if he has experimented with salt as a fertilizer.

Mr. SAUNDERS: Yes, we have five fields in which experiments have been carried on with salt as a fertilizer for five years. These fields are sown respectively with wheat, barley, oats, roots and corn. We have found that in the case of wheat and barley in most seasons the weight of the grain in proportion to the straw is increased, but the difference is not very marked. The results will be published very shortly in the bulletins.

Mr. CLARKE: I understood you to say that peas were almost as good as clover for the absorption of ammonia?

Mr. SAUNDERS: I said for the absorption of nitrogen. The nitrogen is taken directly from the atmosphere, but they also serve the other purpose of taking up the ammonia which is brought down by the rainfall.

Mr. CLARKE: Do you consider that it has been established by the German chemists that there is a direct absorption of nitrogen from the atmosphere?

Mr. SAUNDERS: By leguminous or pod-bearing plants—yes.

Hon. Mr. HOARD: There is one way I found summer-fallowing to be useful, that is in getting rid of quack-grass. I have the same opinion that you have with regard to its effect upon the soil, and the only way I justify it is that it is a means of killing out quack-grass.

Mr. CLARKE: In regard to what Gov. Hoard has remarked, there is another way to kill quack-grass. You can entirely smother it out by a course of clover. There is not a weed known in Canada that you cannot kill by a thorough clovering.

The PRESIDENT: I am afraid I cannot agree with Mr. Clarke. I think quack-grass would kill the clover.

Mr. CLARKE: Yes, if you pursue the ordinary course, and sow timothy with the clover. Let the quack-grass compete with any crop but clover and it will kill it. But put the quack grass through a thorough course of two years' clovering, and the quack-grass must go. You can kill every other growth if you put in a sufficiently dense crop of clover and keep it up for two years.

The meeting then adjourned.

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## SECOND DAY—AFTERNOON SESSION.

The meeting was called to order at two o'clock.

## THE VALUE OF BUTTER-FAT IN CHEESE.

Prof. VAN SLYKE, of Geneva, New York, was called upon. He said: This is the first time I have had the privilege of meeting with a body of Canadian dairymen, though I have had the pleasure of meeting some individuals who are prominent in dairy matters in Canada. Last fall it was my privilege to meet a member of this Association, who has been active with you for years, a man who I think, probably more than any other one in Canada gave the right impetus in building up this industry on this side of the line; a man who started out to find out what was right, and to learn how best cheese could be made without regard to the amount of money to be made out of it. I refer to the Hon. Thomas Ballantyne. (Applause.) His address which I heard at Watertown a few weeks ago was most instructive, and was of great value to the dairymen of New York who had the pleasure of listening to him. I greatly regret that I am not to have the pleasure of listening to your own silver-tongued Robertson, whom I heard for the first time something over a year ago in our own city, and who, I must say, gave me more pleasure in listening to than any man I ever heard discussing dairy or agricultural matters. Then your Professor Dean was associated with me for some little time in our work at Geneva, and I

may say if you had not had more money to give than we, he would have been in Geneva still. I saw there the promise of great usefulness in him, and you were wise enough to see it too. Having met some of your more prominent dairymen individually I am now glad to meet a body of men representing this great industry. As ex-Governor Hoard said, we are obliged to practice reciprocity in ideas; they cannot set up custom houses to charge duties upon these. Your Robertson, Ballantyne and others, have been over to our side and helped us, and if in return we can assist you in any way we feel that we are only paying a debt we owe. I am free to say that Canada is now ahead in the race, but we hope you will not stay there. It is a good thing to have a neighbor whose example helps us forward. If we get ahead of you, you may attribute it to yourselves and the use we have made of what you have taught us. What is it that gives value to milk for purposes of cheese production? The universal practice (at least all but universal in Canada, and the greater part of New York State) says that it is bulk that gives the value and that the man who brings the largest quantity should get the most money. This is assuming that a given quantity of milk will make as much cheese as another regardless of its qualities. I hope to show that this is a fallacy, and that a fundamental fact of great importance is the value of milk arising from quality in its relation to the manufacture of cheese. In order that you may understand the scope of the work which furnished the data of the remarks which I shall give you this afternoon, I may say that we made experiments in cheese-making at five different factories selected without any special record, factories distributed through the centre of the State and covering a line of about 100 or 150 miles, and made about fifty experiments at these factories, commencing in May and closing in October. In this way we used something over 200,000 lb. of milk, which required the product of more than 1,500 animals. So you see our data are sufficiently extensive to eliminate errors that would have been found in working on a much narrower scale. We also carried on experiments in the Geneva station with regard to particular conditions of manufacture that it was not practicable to carry on in these factories. In all we made 106 experiments. There is not time to go into the details regarding these experiments, so I shall give some of the results as showing the relation of fat in milk to the production of cheese. I believe there is only one factory in Canada that pays for milk otherwise than on the basis of bulk or weight. As all of you know who read the dairy papers, another method has been proposed—to pay for milk according to the quantity of fat it contains. Two questions arise as soon as this proposition is made. First, is it practicable and second, is it fair? Two or three years ago it would not have been practicable; the services of an analyst or chemist would have been necessary to determine the fat in the milk, which would have involved too great expense. Now as you know we have two or three methods of determining the amount of fat in milk, methods which are quick, simple and accurate; so simple that anybody who has the faculty of being at all careful can do the work as well as the man who is skilled in analytical chemistry. I would as lief trust my ten-year-old boy after he has had instruction in the points which are necessary to be observed. In my opinion the Babcock test is the most satisfactory and in every way the most desirable test that has been proposed. This settles the practicability question, but there are some points in connection with that which I shall bring up later. Now the more important question. Is it fair and just? Is it as fair as the method of paying by bulk? Is the fat in the milk a proper guide, an accurate guide to the amount of cheese that it will produce? Is it equally just to the man who brings milk containing three per cent. of fat, as to him who brings milk with four per cent.? When the method was first formulated there was some division, inasmuch as we know there is something else than fat in the milk that goes to make the cheese. In regard to butter-making, it is a simple matter of proof that it is the fat in the milk that makes the butter, and the quantity of butter made is in proportion to the fat in the milk. But I think it is now universally conceded by all who have given any attention to it, that as compared with the present method, this method is fairer—that it is as fair as we can ever expect to get, perhaps. Now the results we have obtained in our experiments justify me, I think, in a rather strong statement, that this method is not only far better than the old, but that it is the best method that has ever been proposed or is likely ever to be proposed for paying for milk for cheese-making. Let me deal with the objections

that are raised to the new method. The first is that the milk that is rich in fat does not contain as much casein in proportion to the fat as poor milk in fat, and therefore the more the fat the less cheese in proportion will it make. Turn aside for a moment and let us ask, what is it in milk that makes cheese? There are only two points in milk that are practically to be considered—fat and casein. We do not take the water into consideration, for the proportion of water to be left in the cheese is under control of the maker When I speak of casein, I refer to that element in the milk that is precipitated in solid form by the action of the rennet. There is another element in the milk that closely resembles casein, but it differs in this respect, that it is not acted upon by the rennet. I refer to albumen. Ordinarily, casein and albumen, these two nitrogen compounds, are generally referred to as casein, but for the purpose of this discussion we must make a distinction. Albumen has no more value than sugar of milk. In speaking of the casein I speak of that part which is acted upon by the rennet, most of which goes into the cheese. Is it true that milk poor in fat contains more casein than rich milk? In our experiments the milk, whey and cheese were analyzed completely in every instance. Taking the results of our summer's work and averaging them, we have been able to obtain what we believe to be the facts in respect of normal milk. For the sake of illustration let us compare milk containing three per cent. of fat with milk containing four per cent., calling the first No. 1 and the other No. 2. No. 1, as found by actual analysis of 10,000 lb. of milk, contains 2 per cent. of casein—that is two-thirds as much casein as fat. Now we found that milk containing four per cent. of fat contained 2.67 per cent., or $2\frac{2}{3}$ per cent. of casein. On the face of it, it looks as if it were true that the casein in the richer milk did not increase in the same proportion as in the poorer milk, for while the difference in fat is one per cent., the difference in casein is only $\frac{2}{3}$ of 1 per cent. But we did not have the same amount of casein to start on. In No. 1 we have 3 lb. of fat and 2 lb. of casein; in No. 2 we have 4 lb. of fat and $2\frac{2}{3}$ lb. of casein. The difference in the milk is 1 pound of fat and $\frac{2}{3}$ pound of casein. But one pound is one third of three pounds, a difference of one-third in the fat. And two thirds is one-third of two, so that there is an increase of casein in proportion to casein, just as there is increase in fat in proportion to fat. So that the result of our summer's work goes to show that the casein in milk is about two-thirds of the fat, whether the milk contains 3 or $3\frac{1}{2}$ or 4 4-10 per cent. of fat. I draw the line there because we did not get milk containing over 4 4-10 per cent. of fat. It may not be true that milk that contains 5 or 6 per cent. of fat would hold the same proportion of casein, but then we have not got 5 per cent. and 6 per cent. milk to work in the cheese factories yet. These remarks apply to milk that varies from 3 per cent. to $4\frac{1}{2}$ per cent. of fat. It is true that in several instances we found that the casein did not increase as rapidly as the fat; on the other hand we found cases in which it increased more rapidly. The rule that the casein is just two-thirds of the fat does not always hold good, but it holds good in the majority of cases, and the average of our whole summer's work, covering 200,000 pounds of milk taken from five different factories, give this as the average. It may be said that it only happened so, but our work was carefully done, and I do not believe that it only happened so. I believe this rule will hold good, not only because of the facts I give, but because we had supplementary evidence. It may be interesting at this point to turn aside from the discussion and notice what these different milks are worth. Take the fat at an average value of 25 cents, and the casein at an average value of 2 cents. This would give a total value of the fat and casein in No. 1 milk of 79 cents, while in No. 2 the milk and casein would be worth $\$1.05\frac{1}{4}$ cents—a difference $26\frac{1}{4}$ cents in favor of the 4 per cent. milk. Now, for the sake of seeing results, we will suppose what is not true —that the casein is the same in two milks—say 2 lb. in each, and that the only difference is in the fat. The fat and casein in the first milk would have a value of 79 cents, and in the second $\$1.04$, a difference of 25 cents. Now if any injustice is done it is done to the man who produces the better milk, because according to the method of paying he does not get paid for the casein produced. But the man who produces the better milk is a pretty good-natured fellow, and he will be satisfied if he gets paid for the fat in his milk. We have no method of estimating the casein, but it is of so little value that it would be hardly worth while to estimate it. If paid for on the basis of the fat, the dif-

ference in value of those two milks would be 25 cents per 100 lb. Now, under the present system, suppose two patrons furnish milk, one 3 per cent. and one 4 per cent. of fat. What do they get for their milk per hundred pounds? Each furnishes 100 pounds of milk, a total of 200 pounds, and suppose the cheese made from this milk sells for a price that will realize 25 cents per pound of fat. There is a total 7 lb. of fat in the two. Both together received $1.75 for their milk. Therefore each would get, under the present system, 87½ cents. But on the other basis the division would be 79 cents and $1.04. This simply means that for every 200 pounds of milk that these two take to the factory 12½ cents that belongs to the man who produces the better milk goes into the pocket of the other. This is really a system of robbery, legalized by common consent, to be sure, and permitted by ignorance of the facts. But it is really a method which encourages the production of poor milk, for the man who takes the most milk gets the most money. I do not know whether you have a legal standard of milk in Canada, but in New York we require milk to contain 3 per cent. of fat. The man who wants to be sharp and make money, yet keep out of the clutches of the law, simply takes his 4 per cent. milk and adds water to it, then takes it to the factory and sells it, getting as much for the water as for the milk. The second objection that is raised is that milk which is poor in fat will make more cheese for every pound of fat in it than milk which is rich in fat. To see if this is so, let us refer to our facts again. I have here a chart, showing the analysis of milk from May to October. In May, with milk of 3.20 per cent. of fat, we had a yield of 2.73 lb. of cheese for each pound of fat, the balance being made of casein, water and other things. In June, when the amount of fat had increased nearly 4-10 of 1 per cent., the yield was practically the same—2.76 lb. of cheese for each pound of fat in the milk. In July the fat in the milk had increased a little more, and we had about the same amount of cheese. In August the amount of fat had increased a little more, and the amount of cheese made from it fell somewhat to 2.66. This was caused by two things; first, that there was a mess of tainted milk brought in one day, and that caused a greater loss of fat and so diminished the yield, and in the next place these cheese contained somewhat less moisture. In September we had a little greater increase of fat and still greater decrease of cheese yield. This looks as if the richer the milk got the less cheese it makes. But there is this fact in the case to be considered. They were feeding their cows very largely with the refuse of a corn canning factory, belonging to the proprietor of the cheese factory, and the two things did not work very well together. Whether it was that the vapors from the refuse reached the factory and affected the milk we do not know, but there was a tendency to greater loss of fat, and a smaller proportion of production of cheese. In October, when the fat was highest, the proportion of cheese was greater than any other time, rising to 2.86. This large proportion of cheese is explained by two facts. Some more water was retained in these cheese, and the milk from which the cheese was made contained a rather larger proportion of casein than the average. Taking the average we find that on the whole the yield was 2.73, and we find the amount of cheese the milk should produce by multiplying the quantity of fat by 2.73. Mr. Hoard has agitated this question in Wisconsin and has gone to great pains and expense to get reports from the cheese makers of his State who have been paying by fat in the milk last season. In the last number there was a contribution giving the history of the whole season. The average amount of cheese made for each pound of fat was 2.75, which differs from the result we obtained only by six one thousandths, and Governor Hoard tells me he has received a number of reports which confirm this in every particular. Of course there is more or less variation above and below these averages. We have always variations. This is due to the different quantity of moisture retained, as far as I have been able to find out. This, cheese-makers have not been able to control. It is practically impossible to take two batches of milk and make them up so as to contain the same quantity of moisture in the cheese in each case. This is a difficulty that no one realizes, and it is one that we knew nothing about so far as I am aware until this last summer. The question may arise, what is the use of knowing what quantity of cheese may be made from a pound of milk? Milk produces cheese according to the quantity of fat, and this is a sort of check upon the cheese-maker. If the patron knows that only say 2½ lb. of cheese have been produced per pound of fat, he may know that he is suffering

a large loss and that he has a poor cheese-maker. If these results are confirmed by the report Mr. Hoard is having made at so much pains, we should have a certain sort of check to know how the cheese-maker is doing. The next point raised in objection to this system is that the amount of fat lost is greater in milk rich in fat than in poor milk —that if you go above a certain per cent. of fat you lose most of the fat in making the cheese. I show you here another diagram which gives in one column the amount of fat lost in the whey per 100 lb. of milk, and in another column the per cent. of fat lost in the whey. For instance, take milk containing 3.20 per cent. of fat. In this, 29-100 was lost, or 9.06 per cent. In June, when the fat and milk had increased about 4-10 of a pound, we had a smaller actual quantity of fat lost and a considerably smaller proportion. In May, the proportion of fat lost was second, or next to the largest in amount lost during the summer. Then turn to October, where there were 4.14 lb. of fat, the loss was 31-100, or say 4.48 per cent. When the milk was richest the proportion of fat lost was less, and in the month when the quantity of fat was least, the loss of fat was almost the greatest. In September, when the proportion of fat lost was largest, being 35-100 lb., or 9.19 per cent., was the time when the cows were fed upon the refuse of the corn-canning factory, and the increased loss is explained by this.

A Voice: Were the cheese made by the same maker?

Prof. Van Slyke: The cheese-makers were furnished by the State Dairy Committee of experts, and one of two men was always present during these experiments. The same man, Mr. George A. Smith, superintended the experiments in May, June and September anyway, and was present during most of them. Our work at the station shows that the change of cheese-makers had no influence for these men were all experts, understanding each other's methods and practising the same method, so that the small changes made did not cause any difference. Therefore, the conclusion we arrived at from our summer's work was that the quantity of fat lost in cheese-making was entirely independent of the fat in milk. That is up to 4.4 per cent. I am going to make another statement: We took cream and added it to the milk and in one case we had milk which contained 6 per cent. of fat—abnormal milk and another 5.7 per cent. In the 6 per cent. milk the proportion of fat lost was almost the lowest we had during the summer, being $6\frac{2}{3}$ per cent. The proportion in the 5.7 per cent. was somewhere in the neighborhood of 7 per cent. We used skim milk in several instances and I think, with perhaps one exception, the proportion of loss in the skim milk was greater than in the case of rich milk. Perhaps this would not hold true with every cheese-maker, but with us it was clear that the loss did not increase in proportion to the fat even with abnormally rich milk.

Hon. Mr. Hoard: Was there the same time of coagulation?

Prof. Van Slyke: No, the amount of rennet was somewhat different, as well as the method of manufacture. The curd of the fat milk was much more tender and had to be handled with much greater care. Probably the ordinary maker, if he had not known the kind of milk he was handling, would have had a much more serious loss, but the experiment shows that it was possible to make this rich milk into cheese with a small proportion of loss of fat.

A Voice: Did you ever try a hundred weight of 6 per cent. milk and a hundred weight of skim milk together and see the difference it would make in the average of cheese and profit?

Prof. Van Slyke: We have made skim milk cheese and rich cheese side by side in the same vats and under conditions as near alike as possible within certain limits. Of course the working up of rich milk requires different handling than the working up of poor milk.

A Voice: Take 100 lb. of 6 per cent. milk and 100 lb. of skim milk, then take 200 lb. of 3 per cent. milk which Mr. Hoard claims is the standard, and which will be the same average as the other two together, and I want to know if the 3 per cent. milk will not make more profit for the patron than 100 lb. of 6 per cent. milk?

Prof. Van Slyke: It will not in New York State. Governor Hoard's experiments may have led him to conclusions perfectly correct so far as Wisconsin is concerned, but

as applied to skim milk cheese in New York it was not correct. I did not intend to bring up the question of skim milk cheese, because it is not a living question here. You do not make skim milk cheese in Canada, and I would not have mentioned it had not my friend brought up the subject. We have now taken up these three objections to the method of paying for milk by the fat it contained, and I have shown you that according to our experiments these objections are not sound. There are two other points, one of which was raised this morning, one is that tainted milk will not make as much cheese in proportion to the amount of fat in the milk, as will milk that is not tainted. Well that is true as perhaps everybody knows to their sorrow. But why is this an objection to paying for milk according to the amount of fat?

Hon. Mr. HOARD: Is not that loss of cheese production due to the loss of fat in the whey?

Prof. VAN SLYKE: Yes, the cheese-maker cannot hold the fat without keeping so much moisture that the cheese is not saleable, and if he tries to get rid of the moisture the fat goes off with it. Now in regard to tainted milk I am not going to discuss the causes, but it is sufficient to say that they are remediable. When a mess of tainted milk comes in, it taints all the milk in the vat into which it goes, and it is just as likely to occur in milk that has 3 per cent. of fat as in milk with 4 per cent. In fact more likely because the man who takes pains to produce milk of 4 per cent. on the average will be such a man as will take better care of it than the other. I know that we always look to the 3 per cent. milk as a rule for the tainted milk. This is not a valid objection to paying for milk according to the fat it contains. The production of tainted milk would not be so exasperating if its effects were confined to the man who produced it. He is like a man who exposes himself to some contagious disease. But what is the remedy for that? Quarantine. Put his milk in quarantine and keep it there. Refuse to take his milk until it has recovered from the disease it has been suffering from. It is a condition and a serious condition that confronts the cheese-makers, but the condition is remediable. The treatment must be firm and the patrons of the factory must stand right together. They should understand in the beginning that they will allow no man's milk to be accepted that is not in proper condition. Another question is this, that sometimes a poor cheese-maker is employed who will lose a great deal of the fat in the process of manufacture. But that is remediable and there is no interest in discussing it further. In conclusion let us ask why the the present method of paying for milk in cheese factories should be discarded? First because it doesn't recognize the fundamental fact that milks differ in regard to the amount of cheese they can produce. Second, because the method is unjust and not business-like; the intelligent dairymen who produces milk above the average is having money which belongs to him taken from his pocket and transferred to that of his ignorant and shiftless neighbor. This is not imagination, because it is taking place in every factory where the new test is not being used. In using the illustration as between 3 per cent. and 4 per cent. milk, the point may come up that milks never differ this much. As a matter of fact, in making an examination of a large number of factories in New York State I never found the difference between the best and the poorest milks less than 1 per cent. Third, the present method discourages the production of good milk and encourages watering, skimming, etc. Now, finally, turning to the other side, why should we pay for milk according to the fat it contains? First, because the amount of fat in milk is an accurate guide to the amount of cheese that can be made from it. Second, it is just, and therefore in the highest sense business-like. Third, the adoption of this method will result in improvement in the care of milk. Why? Because it offers an inducement to each dairyman to improve the condition of his milk, by putting more money into the pockets of the men who produce better milk. This will result in improved attention to the cow, better food, more humane treatment, and better care of the milk Improvement in one respect is contagious. It involves improvement along the whole line. Fourth, because all temptation to adulterate milk by watering and skimming is removed, for the patron is paid for what is good in making cheese. It makes a man honest in spite of himself. Fifth, because the production of milk of a better quality must inevitably be followed by improved yield and quality of cheese—in other words more money.

Mr. JOHN BLANEY: I congratulate the speaker on his success. I beg to ask what was the average quantity of milk required to make a pound of cheese in these experiments?

Prof. VAN SLYKE: Within a small fraction of 10 lb.

Hon. Mr. BALLANTYNE: For green cheese or cured cheese?

Prof. VAN SLYKE: Green cheese.

Mr. RICHARDSON: Was the whey returned?

Prof. VAN SLYKE: I think the general custom is for patrons to draw as much whey home as they want.

Hon. Mr. BALLANTYNE: Do the patrons deliver their own milk?

Prof. VAN SLYKE: Yes, in most cases.

Hon. Mr. BALLANTYNE: I think it should be explained that in New York State the patrons deliver their own milk at the factory, and if they take whey back it is immediately emptied and the cans cleaned. That is a very different thing from the way it is done here.

Mr. J. F. BEAM: I have to thank Prof. Van Slyke for taking up a subject upon which I questioned Mr. Hoard yesterday. Although Mr. Hoard gave me a fine answer, it did not quite meet the point I want. I find cheese-makers argue against the Babcock test, for reasons which Dr. Van Slyke has cleared up.

Mr. WOOLLEY: I would like a further explanation of that question of skimmed milk and rich milk in making cheese.

Prof. VAN SLYKE: Let me answer that on the lines of the question asked by the other gentleman. Take milk containing 6 per cent. of fat, and milk which contains theoretically no fat—skim milk. Mix them and you will have a milk that contains 3 per cent. Why is that not like normal milk? In the 6 per cent. milk you have casein and fat in a certain proportion; when you add skim milk you do not add fat, but you do add casein. Look at it another way. Take normal milk containing 4 per cent. of fat; take out 1 per cent. of the fat and reduce it to the condition of milk having 3 per cent. That is not the same as normal milk containing 3 per cent. In the normal 3 per cent. milk you have 3 lb. of fat and 2 lb. of casein, but in the other you have the same proportion of casein as goes with normal milk at 4 per cent. The more fat you take out the more casein you have left in proportion to the fat that remains, and thus with skim milk you make a larger quantity of cheese in proportion to the fat remaining.

Mr. HODSON: We are living in a country where we make full cream cheese.

Prof. VAN SLYKE: I know it, and I would not have referred to this question had not the other gentleman done so. I thought it would be an insult to the dairymen here to talk about skim milk cheese.

Mr. LEITCH: What proportion of fat in milk is required to make the best cheese?

Prof. VAN SLYKE: So far as our experiments go this summer you will make about as rich cheese (that is, the proportion of fat to casein will be about the same), with 3 per cent. normal milk as 4 per cent., provided the amount of moisture is about the same, because the proportion of casein to fat is about the same in both.

Mr. WILLIAM THOMPSON: What would be about the average of cured cheese, the average of green cheese being as you have stated?

Prof. VAN SLYKE: I have not calculated that.

Mr. LOUGHEAD: Did you find during the warm months, when the milk contained a larger amount of butter-fat, there was a larger proportion of waste than in the colder months?

Prof. VAN SLYKE: The figures show that in August the proportion was about the average of the whole, but it was not as great as in September or May. Of course tainted milk is more likely to come in in the warm than in the cold months.

Mr. J. S. PEARCE: Would it be satisfactory to the patrons to pay for milk that yields 5 or 6 per cent. of fat in the way you propose?

Prof. VAN SLYKE: Our experiments cover milk averaging 3 per cent to 4½ per cent. of fat. Whether the same rule holds good with milk at 5 per cent. or 6 per cent. I cannot say. If I can only get a sufficient quantity of that sort to experiment with I could tell you, but I do not expect to get 1,000 lb. of that milk.

Mr. WOOLLEY: I represent a factory in Norfolk in which we have had the Babcock test this summer, and we do not know what process to follow in crediting the patrons with the butter-fat. Dr. Van Slyke may not be posted upon that point, and perhaps Mr. Hoard would tell us.

Hon. Mr. HOARD: You cannot go into co-operative cheese-making without doing the same as other co-operative societies. It is impossible to give everybody a mathematical return always, and we must be content with a division which would be practically fair, and we can do that better through the Babcock test than any other system on earth.

Mr. WOOLLEY: But I do not see how practically the division is to be made so that I am to get more for my 6 per cent. milk than if it was 3 per cent. How much butter-fat can be put into a cheese?

Hon. Mr. HOARD: I can only tell you the most I have seen. It was 11 per cent., and it made the stinkingest cheese I ever knew.

A VOICE: Have you any of those cows now?

Hon. Mr. HOARD: I have a cow to-day that gave 10 per cent. This cheese that I speak of was an experiment made in Wisconsin Experimental Station to see how much fat could be crowded into a cheese, and it was 11 per cent., and it made a mass of stuff that I could hardly recognize by the name of cheese. But this is not the practical question. Let us say you have 100,000 lb. of milk and have made it into cheese. You have every man's record of the number pounds of fat he has contributed to the common product, and you have just so much money. It does not make any difference whether you divide it by the total number of pounds of fat and get the ratio according to the pounds of fat, or by the number of pounds of cheese and get the ratio according to the number of pounds of cheese. Suppose we divide by the fat. There were ten people who brought 100,000 lb. of milk. Find out the number of pounds of fat each one has brought, divide the total amount of money by the total amount of fat, and you get the ratio per pound of fat. Multiply each man's pounds of fat by the ratio and you have got the amount of money coming to him.

Hon. THOMAS BALLANTYNE: I hope ample time will be allowed for this discussion. We have reached the stage when the most important question to be discussed is the one we have now before us, and I know there is a great deal of uncertainty about it in the minds of many, but I find when the matter is explained to practical dairymen, they recognize that this is the true way to pay for milk. It is quite true, as Professor Van Slyke says, as far as I know, that there is only one factory in western Ontario that has paid for milk by the butter-fat test during the past year. The result in that case has been most satisfactory. The maker tells me he could not think of going back to the old plan. It was a co-operative factory and one of the best managed in the province. Many years ago they were having most unsatisfactory results, and they abolished the system of hauling the whey back in the cans, and they have since advanced so that their goods have as high a reputation as those of any factory in America. Tainted milk is now unknown, because, in order to be tested to advantage, the milk has to be well aired and in good condition. Their goods have brought the highest price of any factory this fall. They sold 1,600 boxes of September and October make at 11¼ cents; if any other factory has had as high as that I do not know of it. The question with a great many is as to the justice of this plan. Professor Bell carried on a series of experiments at Tavistock factory, which showed that this was a

just and correct way of paying for milk. He takes several lots of milk of varying percentages of fat and shows the pounds of cheese made, the number of pounds of milk to a pound of cheese and the money results.

| Lb. milk. | Per cent. fat. | Total lb. cheese produced. | Lb. of milk to lb. of cheese. | Money result. |
|---|---|---|---|---|
| 500 | 3.20 | 45.12 | 11.05 | $4.96 |
| 500 | 3.30 | 46.19 | 10.82 | 5.08 |
| 500 | 3.60 | 48 37 | 10.33 | 5.32 |
| 500 | 3.80 | 51.00 | 9.80 | 5.61 |
| 500 | 4.00 | 52.62 | 9.50 | 5.72 |
| 500 | 4.10 | 52.75 | 9.47 | 5.80 |
| 500 | 4.30 | 54.90 | 9.10 | 6.03 |
| 500 | 4.56 | 56.78 | 8.81 | 6.24 |

In other words from $4.96 to $6.24 was the actual money result of the increase from 3.20 per cent. of fat to 4.56 per cent. With these facts before us, I do not see how we can do otherwise than make the change. I have been told that three other factories than the one I mentioned decided unanimously at the annual meeting to pay according to the Babcock test. We have been using the Babcock machine for the last two years, and kept the record of the test. The people had become familiar with the test of quality and there was not a dissenting voice to adopting the measure. I expect the greatest benefit from the general adoption of this system. If there has been one thing in connection with this cheese business more distasteful than another, it has been to prosecute people for tampering with their milk. Better let twenty guilty escape than bring one man into unmerited disgrace, for it is not only himself but his family that suffer. This system will do away with all that. If the people bring water they will be paid for water. I trust this meeting will concur in this system and will adopt a resolution in favor of it. I am aware there is a percentage of cheese makers unacquainted with this test, but it is an easy matter to learn. I brought the first Babcock test to this country. My son easily learned it without instruction further than the directions which accompanied the machine. A large number have visited the the Tavistock station during the past year and have become familiar with it. This is well, for if it is to be used it should be used correctly.

A Voice: Can you tell us how many pounds of milk they took to make a pound of cheese on the average in the factory of which you spoke?

Hon. Mr. Ballantyne: I cannot; the factory I referred to was Elma.

Mr. Dickson: Our average is 10.15 lb. of milk per lb. of cheese.

Mr. Clarke: Did you not object to paying people on this basis when the matter was before the local Legislature some two or three years ago?

Hon. Mr. Ballantyne: It is quite true when a Bill was before the Committee providing for the inspection of milk, I did object, because we had no means of testing milk at that time, except chemical analysis. It is only since the Babcock test was perfected that we have had the means of ascertaining the percentage of fat in milk without a chemical analysis.

Prof. Saunders: Prof. Robertson carried on a long series of tests on the amount of cheese to be made from a given quantity of milk containing different percentages of fat, and at Brantford last year I had the pleasure of bringing the figures before the Association. It was found that, beginning with 3 per cent. of butter-fat, every increase of 2-10 of 1 per cent. of butter fat gave, on the average, 3-10 of 1 per cent. increase in cheese.

Hon. Mr. HOARD: With regard to the practical operation of a factory under this system—and you know I am practical or I am nothing—the first question is, a fair, honest sample. Let me give you my system, which I believe to be the best. The patron turns his milk into the weigh can and by this means it is thoroughly mixed. It is then weighed. The can is hoisted and starts on its way to the milk vat. Motion and mixture are necessary when you take a sample. Right in the bottom of this spout running from the weigh can to the milk vat is a hole punched and under this is a jar into which some of the milk runs. The milk is first mixed in pouring into the weigh can, and then it is mixed in running. Milk does not slide like snow shoes; it goes over and over. We have tested the results of this system by exact chemical analysis and have found that it is a perfect way of taking a fair sample. I have been sometimes asked if Dr. Babcock has made much money out of his discovery. I can inform this meeting that he never got a penny out of his invention, but gave it freely to the whole world. (Applause.) He has not patented his tester.

Mr. PATTULLO: Mr. Ballantyne made a suggestion which struck me as extremely proper. At the meeting of the Oxford Dairymen's Association a resolution was passed unanimously which I would like to see passed here. I will repeat it as well as I can from memory. We have had explained to us the justice and advantages of this system of paying for milk, and I think we should go home prepared to put these things in practice. The experiments made by Mr. Bell, Prof. Van Slike, Prof. Robertson and others show that the butter-fat is a true test of the value of milk, and I think that it is our duty now to bring the system into practical work. I move—

"That, in the opinion of this Association, payment for the milk supplied by the patrons of cheese factories in this country should be made according to the quantity of butter-fat as shown by the Babcock test, and that we go back to the various factories in the country and use our utmost endeavors to bring about concerted action for the general adoption of this system."

I believe this system would have been in operation in nearly all the factories in this province if the factories were not afraid of each other. Some have the idea that if they adopt it some other factory near at hand will not, and that that factory will take away the patronage from them. I heard a gentleman make a remark to that effect while somebody was speaking. This is the first time I have ever heard the difficulty explained in this way, but Mr. Hoard's explanation shows that the system is extremely simple and that no injustice can be done to anyone. Every man gets in proportion to what he gives. Why not then adopt concerted action to bring this system into vogue? As a Canadian I am a little jealous of the Americans going ahead of us in this matter, when we have been ahead of them in others.

Mr. DILLON: We have paid for milk by the Babcock test in the Elgin creamery and I have not heard complaint from any of the patrons. As to the difficulty of operating the machine, if any gentleman will come to the Mount Elgin creamery for two days I will teach him how to operate it so as to get satisfactory results.

The resolution was put and carried unanimously by standing vote.

## DAIRYING AND PORK RAISING.

Mr. E. CASSWELL, of London, read a paper on the above which will be found in the report of the proceedings of the Creameries' Association.

Prof. SAUNDERS: Prof. Robertson has been carrying on experiments in feeding hogs for the last two or three years, and, up to the present time we have found a cross to be the best to give the long side bacon which Mr. Casswell refers to. We have demonstrated another very important fact—that this cross will put on live weight with less consumption of grain than either the pure Berkshire or the large York. This has been tested repeatedly and can be relied upon. About four and one-half pounds on the average of barley, peas and rye in equal quantities have given a pound of pork, and about four

pounds of frozen wheat, when used alone, will give a pound of live weight in almost every instance where the hogs have run between one hundred and two hundred pounds. Where farmers can turn their barley, rye and other coarse grains into pork, at the present price of pork they can make more out of the grain than by selling it in the ordinary way, particularly as it does not tend to destroy the fertility of the soil.

## THE DAIRY COW.

Hon. W. D. Hoard, of Fort Atkinson, Wis., was then called upon. He said : I am obliged to cut my remarks short, and must condense as much as possible. The question of the dairy cow has been one of intense study to me for over thirty years. As yet few farmers in my own country or in Canada agree with my ideas on this subject. Nevertheless, like Paul, I keep preaching in the hope that I may gain a few. I think the farmers stand terribly in their own light. In Wisconsin no farmer has grappled with this question resolutely, but he has shown at once an improvement in his circumstances. I know, for I have three hundred and sixty patrons who are a constant study with me. I know that they have done better, just in proportion as they have shown intelligence with regard to this machine that they do business with. I know that there is such a thing as the dairy cow, such a thing as dairy feeding and dairy housing, yet I can hardly induce one farmer in a hundred to make a move to get out of the rut he has channelled so deep that he can hardly see over the sides. You need not tell me the Canadian farmer wants money ; you need not tell me the Yankee farmer wants money ; I tell you they do not. He wants his own way, and if money comes that way all right, and if not—no account. He wants to live as he has lived, and if some things cannot be learned without money he does not propose to make himself a study. Your Deputy-Minister of Agriculture spoke to you about the farmer being a manufacturer. All these things he told you are truths. We hear truths enough, but how much wiser will we be to-morrow than we are to-day. There was an old fellow down east who had been a regular old skin-flint—skinned everybody. He got up in the meeting and said if he had wronged anybody he was willing to restore him four-fold. About two o'clock next morning he heard a tremendous rapping at the door. He stuck his head out of the window and asked "Who's there?" The answer was "Jim Weekes." "What are are you pounding at my door for?" "I heard you had said that if you had wronged anybody you were willing to restore him four-fold, and I thought I'd come early, there's going to be an awful rush." But the farmer is wronging himself by his dealing with the dairy cow. I want to give you a practical illustration from the experience of my own patrons. I have here the annual report of our home creamery at Fort Atkinson, which gives every patron's name, and his average for every month in the year, and I do not point to this to make invidious comparisons. But what does it teach? Just good cow sense. This gives the year ending September, for that is our fiscal year. Here is the final page of averages. One man receives 89 cents per hundred pounds for his milk—and mind you the skim milk is returned to him—another 95, then 99, 98, 91, $1, 99, 95, $1.04, etc. The lowest man gets 88 cents, and the highest, my associate editor, Col. George W. Burchard gets $1.25, and Col. Burchard has a herd of thoroughbred Jersey cattle. Yet some will say there is nothing in blood. The lowest man is one whom I have been trying to convert, and yet that man says every time that it is the blamed luck of the business ; and Col. Burchard is one of the ablest men I know, cultured and a thorough student of the cow. He brings the milk of his herd of thoroughbreds to my creamery. He would never do it until we adopt the test system, under which he can receive his due. This list shows a difference of 37 cents per hundred pounds of milk. That is a graphic illustration. I have here a report of the cow census taken at the town (like your township) of Bovina, Deleware county, a few months ago. There were 119 dairy farmers in this town, and I gave a clear and carefully analyzed report of this census in the *Dairyman*, a few weeks ago. Here are a lot of practical dairymen, ranging all the way from 150 pounds of butter up to 350. That difference in the fortunes of these men represents the difference in intelligence they have brought to bear on this question. I made a remark

last winter, which by the way I came across in a Danish paper the other day, which shows how a man's words will travel, "that if the cow could talk she would call for an improved breed of dairymen." The average farmer in Canada and Wisconsin would rather put ten hours of good hard labor into this problem than ten minutes of good hard thinking. I don't blame these men so much, but I keep talking. My wife says that if the country knew how she is bothered by my everlasting talking they would reverse their ideas about women and men on that subject. I want to talk to you about handling. I have the pictures of two cows here. This (indicating) is Pauline Paul, who gave the largest quantity of butter ever given by one cow. The other is Matilda IV., who produced over 900 pounds of butter in one year. Pauline Paul's greatest average was nearly 1,100 pounds of butter in one year. I want you to look at the udders of these cows. I will go into any herd in Canada to-day and find the majority to be peaked-uddered cows. That shows that not one thought has ever been given to the production of cows with udders of proper shape. The cow's udder has got to have a proper shape, just the same as a bushel basket has. What can the breeder do to produce cows with properly shaped udders. I wish I could get my farmer friends to study this question of breeding. When you select a sire devote a little thought and good sense to the question. Select one in which the rudimentary teats on either side of the scrotum are as wide apart as you can get them. That peculiarity will probably be transmitted to the calf, and, if it is a female, the udder will likely be of good shape. Another point I want to call your attention to is this (indicating the navel). See how the abdomen comes down here. These cows have tremendous constitutions, and they need it to stand the strain they are subjected to. In order to produce the butter-fat they do, they must consume an enormous quantity of food. This mark is one of the best indications of constitution that I ever saw. When you start out to get cows keep a few of these points in your mind. They are not theories; I have never been deceived about the constitution of a cow. I have had to judge hundreds of cows at fairs and elsewhere, and I have been mistaken about a great many things, but I never was mistaken on the point of constitution. The navel is the best indication of constitution in a cow. Why? Because the mother supports the fœtus through the umbilical cord, if that canal is small and weak the vitality of the fœtus is small and *vice versa*. Accoucheurs and physicians recognize this principle and judge a child's chance of living by it. It may be said that these are matters too delicate to be discussed here. But there is nothing that God has made that it is wrong for us to understand. It is with those things as it was in the case of Peter who was told "What I have made that call not thou common or unclean." What is constitution in a cow? Totally different from constitution in an ox or a horse. It means that a cow has strength to carry on her work in the manufacture of milk, and to endure the strain of turning large quantities of food into milk. It does not mean her ability to stand your neglect or abuse, or to stay out in the cold, where you have put her. She can't be a good cow and stand the cold or stand your abuse. The moment you strike a good cow you do more to repress her mammal functions than if she was a poor cow. Her nervous system is elaborate and vital; an insult is felt all over. Constitution gives her the ability to do her work under favorable circumstames, and the navel is the best point at which to judge the constitution. I am a passionate lover of a fox hound. A man once brought me two hounds, brother and sister, and about a year old. I laid them on the floor and examining them I said: "This dog has a delicate nose, but I don't think he could run two hours on a track without giving up. His sister can run all day and all night, but she has not nearly so good a nose." I judged by the umbilical development in the dog which was weak, indicating deficiency in vitality, but in his sister it was strong, just as if it was made of boiler iron.

Now as to feeding the dairy cow. She needs different feeding from any other animal, and let me explain the philosophy of that. We are told by those who have studied these questions that the dairy cow should receive a strong albuminoid ration every day. That means that you should give a cow the class of food represented by the contents of an egg. Prof. Van Slyke told you about the constituent elements of milk. He said that for every pound of butter-fat, there was an almost corresponding quantity of caseine What is that? It is protein or pure albumen almost. It is very highly nitrogenous.

In milk containing 4 pounds of butter-fat per hundred pounds, there are almost 3.50 pounds of albuminoids. She must have the albuminoid ration in order to give the fat. She can't prepare milk for you just as you want it. She prepares milk for her baby and not for men. You must study her purposes; you must feed her with albuminoids in order to get back from her albuminoids and also the butter-fat you want. If you have a good cow that yields a pound of butter-fat or over in a day, she ought to have at least two pounds of albuminoids a day. Suppose you take a hundred pounds of peas and a hundred pounds of corn meal, and a hundred pounds of bran and grind them together and give her say 8 or 10 pounds of this ration. You would be giving her nearly the equivalent of the protein food she needs. Another reason why the cow needs this is because protein is a nerve-saving food, and the cow has a great tax upon her nerves in producing milk. The nervous system is the foundation of all the systems of the body in the production of various energies. We have a certain number of protein foods—such as pea-meal, clover, vetches and oats. These last have not so much protein, but they contain another element called arvine, which seems to have a high degree of nerve food in it. Every farmer ought to produce pea-meal and produce it largely and give his cows the benefit of it. He ought to produce clover also, and feed his cow along the protein line, because he is dealing with this mother for the production of milk.

Another thing is the handling of this cow, and I am going to say a word on stabling. I have great fault to find with the average handling and stabling of the dairy cow. My friends, the ordinary stanchion was made for man and not for the cow. I have spoken to you before about this stable. A great many men don't like it. I have studied and hunted for a long time until I found this one, and now I mean to tell you what this stable is. One of the first things I wanted was to have the cow clean. The cow does not choose filth. You never knew a cow who was free to lie down in her own ordure any more than a pig. When the Lord settles with us he will charge us mightily for compelling the cow and the pig to lie in their own filth. I don't like the ordinary stanchion. I don't like these swollen knees. The stanchion is unyielding, and the cow strikes her knees against the sharp bed-pieces and creates these callouses. Ninety per cent. of the injuries to the teats of cows come from the stanchion. The cows are closely crowded in the stable; one cow lies down, another steps over and steps on the teats of the one lying down. I don't like the dip behind. I believe that to this is due the strained position the cow is compelled to occupy when she becomes heavy with young. She can't lie square. I wanted a different system and I have it here (referring to plan). This is the nicest system I ever tried. This occupies 3½ feet of space. Each cow is by herself. There is a rack in front 26 inches from the floor. The floor is double and slightly inclined so that the moisture shall not run under the bed. There is a drop at the back—just a drop of a two-inch plank. The partition is 4 feet high. The top of the rack flares out 28 inches. All the grass fodder is thrown into the rack. The cow puts her nose through and pulls the fodder down and she always eats it up clean. There is no waste. When the cow is facing square against the rack, a piece of 3x4 or 2x4 is nailed to the floor just forward of the cow's hind feet. The rack flaring out against her, compels her stand with her feet back of this 3x4. When she lies down she steps forward and lies on the dry bed and that bedding will last her for three months, if you like, until it is worn to powder. It is better, of course, to change it once a week, maybe, or once every ten or fifteen days, but this cow will be as cleanly all winter long as if you kept her in a June pasture. Now isn't that an acquisition? I can go into the barns of Canada to-day and find cows plastered beyond recognition in their own filth.

A Voice: What is the length of the stall?

Hon. Mr. Hoard: That depends on the cow. Over this stall should be this inscription "Comfort." Bring the cow up so that her head is even with the rack. Then nail this piece just forward of her hind feet. Then the cow is tied with an ordinary web halter, costing about 30 cents, which should be taken to the harness-makers and resewed. The cow has a ring on her throat which she wears constantly. In the centre of the stall is a spike-ring, and the rope is tied in through and at the end, the rope is divided into two strands, each with a snap for safety's sake, and when the cow comes in you snap the two snaps into the ring on her throat. If one unsnaps the other

holds. I never dehorn, as I do not want to deform; consequently I have to be careful. The feed-box is here in front. As a rule a cow lies regularly on one side or the other, and according to the side on which she lies the feed-box should be placed. There is a door through which the ensilage and corn may be thrown into the feed-box. The cow can stand up comfortably or lie down and be clean. When she wants to lick herself she does so with perfect ease. I take delight in looking at these Guernsey cows of mine, and seeing how much they seem to enjoy their lives. The late Ward C. White said he always spoke to a cow as he would to a lady, and I believe that contains the germ of a very profitable truth.

Mr. WOOLLEY: How do you water?

Hon. Mr. HOARD: I think the best system is to water the cow in the stable. If I have a warm stable I am not so afraid about the temperature of the water. Let the cow drink all the water she wants, even though it is fairly cold, if she is warm. If you turn her out into a storm to drink cold water she will suffer from the exposure. Many say: I don't propose to make my cows tender and I don't propose to do this and that. They are opposed to a confounded sight more than they are in favor of. Are you keeping cows for fun or for fancy, or are you keeping them to make money? If you are keeping them to make money, you must surround them with money-making conditions. The cow is a mother and you must not subject her to chills, because chills cause a shrinkage of the milk-giving function. Do not force a cow to drink out of a frozen stream half a mile from the barn. A high authority says that the cattle of Holland are cared for by the women, and one mother cares for another. The cattle of Jersey and of Guernsey are cared for by the women. It is a woman's instinct. It would be a grand thing for us if there was more mother sense than there is; it would be a grand thing for our cows. I think I was the first to bring out the idea of warm water for cows. But if you have a warm barn and will water the cow in the barn there is not so much need of warm water, and if you turn her out on a fair day it won't do her much harm. You want to do everything to prevent a shrinkage of the milk production. My friend, Capt. McIntyre, of Minnesota, has a herd of 46 cows producing milk for the St. Paul market. They had never seen a woman. One day a lady visited the horses and passed down in front of the cows, and it startled the whole lot. How much milk do you suppose that cost them? Over 40 pound. Another thing; get out of this notion of the general purpose cow. You may hang to it as long as you've a mind to, but that idea stands between you and your highest profit as dairymen. My friends, we could make a handsome profit if we could make ten cows do the work of twenty. It costs you as much to care for a cow that makes 150 pounds of butter as for one that makes 300. There is no logic or sense in it. We must begin with the dairy cow as they did with the trotting horse, and develop the animal we want for this special purpose. Sometimes I have told you about Sheridan's ride. I have repeatedly asked the question and I have never had a man answer it yet? What would Sheridan have done when he rode the twenty miles from Winchester to Cedar Creek? What would the country have done? What would the Union cause have suffered if Sheridan had straddled a Clydesdale or Norman or a general purpose horse? What was it that stood by Sheridan? It was the intelligence of the man that bred that splendid horse. In him there was represented an ancestry of two thousand years of racing blood. And nobly did he stand up for his country under the strain imposed upon him. I saw that horse come down that turnpike. I saw him at the end of the twenty-mile run, with, as much, fierceness and fire in him as though he had twenty miles more to go and could do it. A special purpose horse for special purposes and a special purpose cow for the dairymen who banks his money on dairying. A special purpose sheep for the man who wants to produce mutton; a special purpose hog for the man who wants to raise fine bacon. I've jumped on a horse in the piney woods and chased after a hog for miles and couldn't gain an inch on him; but that animal would not make desirable pork. Now, I know these notions that I give you are beginning to take hold. I see among my patrons some who are making money and some who are not, and the men who are getting ahead are those who have sound ideas on this subject of the dairy cow. Another word on this matter of stabling. Get rid of that dark, damp under-ground stable. I can go through this

country and find the same stable in use now that was in use forty or fifty years ago. We must have a stable with plenty of light. Do you know you can change the color of the milk by giving the cow plenty of sunlight? The lack of sunlight is one reason why the winter milk is lacking in color. If you want to fatten veal to make white meat what do you do with it? Fatten the veal in the dark. The same thing applies to milk. Another thing I want to ask you and then I have done. How many of you make use of the silo? In my town we have 55 silos, and in the town of Lake Mills adjoining I understand there are about 7 more. All these are owned by dairymen like yourselves, and these men don't know how they could do business without it. They point to the increasing figures in their bank account as proof of its value. Every farmer should be alive to this great question of the dairy cow. There is no boundary line between your interest and mine. Let us all be students of the cow. I wish every farmer in Ontario would send and buy Stewart's "Animal Feeding." Farmers have declared after reading that book that it opened up to them a view of this question they had never had before. If the farmers will study these matters you will see this province so prosperous and so rich that you will not have any of the people seeking a more hospitable shore. This province of Ontario and this whole Dominion, in fact, contains such resources that if they were taken hold of properly would be found without superior in any part of the world.

Mr. J. F. Beam: What do you think of the swinging stanchion and hanging stanchion as compared with the ordinary kind?

Hon. Mr. Hoard: Very great improvements, as they give greater liberty to the cow.

A Voice: At what age would you want to get a heifer to breed?

Hon. Mr. Hoard: At fifteen months; I would have a heifer come in at two years old.

A Voice: And when the second time?

Hon. Mr. Hoard: My idea is to breed a cow every January if I can.

A Voice: How are the silos constructed in Wisconsin?

Hon. Mr. Hoard: They are of wood.

The meeting then adjourned.

## SECOND DAY—EVENING SESSION.

Mr. Hately, upon the reassemblying of the Convention, presented the report of the Nominating Committee recommending the election of the following officers:

President, John Geary; 1st Vice-President, William Messer; 2nd Vice-President, A. F. McLaren.

On motion of Mr. Hately the report was adopted.

The President: I can hardly find words to thank you for the honor you have done me. It will be my pleasure and duty to do all I can in the interest of the Association in the coming year as I have done in the past. The Directors are all heartily desirous of doing whatever is possible to advance the interests of the dairy business. Throughout the year our business has been conducted in the most harmonious manner. There is not one of the Directors but has as good a claim to re-election as myself, but I trust that the changes which have been made will result advantageously to the Association. Every change made by the Directors has been made with a view to advancing the interests of the business. For instance, the appointment of Mr. Wheaton as secretary of the Association, has, I think, been a step in the right direction, and I am glad to think that the people seem to take the same view, judging by the number of applications he is getting to attend dairy meetings all over the country. We thought it would be well to have a young man who could devote his whole time and attention to the interest of the Dairymen's Association and the results so far have justified our action.

I feel very grateful to you for the honor you have done me in re-electing me. If there is any association that has won an honorable record in connection with the dairy interests it is the Dairymen's Association of Western Ontario. They have done a great work, and stand second to none in the quality of production in the markets of the world. We stand a cent a pound higher to-day than our cousins across the border. This shows the soundness of the policy we have inaugurated, and I can only tell you we will do our best to carry out that policy in the future. I am grateful to the people who have turned out through the storm to attend this meeting. Yesterday I felt discouraged, and thought that the small attendance showed that but little interest was taken in dairying in this part of the country. But the attendance since then has convinced me that I was wrong. I will now call upon Mr. J. A. Ruddick to give us the results of his experiments at the Perth Experimental Station.

Mr. Ruddick's paper will be found in the report of the proceedings of the Eastern Dairymen's Association.

## TAVISTOCK DAIRY SCHOOL REPORT.

Mr. A. T. Bell read the following paper: I take great pleasure in submitting to you my second report of the work done in connection with the Tavistock Dairy School, over which I was appointed instructor.

My first work in connection therewith was at the Atwood cheese factory, the patrons of which had passed a resolution at their annual meeting that their dividends or profits should be apportioned according to the quality of their milk, or on the quantity of butter-fat which it contains, as shown by the Babcock test, instead of by weight as heretofore—a system which recommends itself very strongly to every right-thinking dairyman, and the justice of which I will prove to your satisfaction later on in this report.

On being requested by Mr. Grey, their cheese-maker, I readily agreed to go to their factory when they would commence making, and get them started on that new system, for as far as we were aware there had not been any attempt at paying on that basis in this country.

The plan of taking samples and of making the test which we most approved of, and which as far as we can learn since has given entire satisfaction, was what is known as the composite test, which may be described as follows:

First provide a small gem or fruit jar for each patron, have it labelled with his name. After receiving his milk and just when it is dumped into the weighing can, while in motion, take out say 2 oz, and pour into his jar, and so on for each patron, for six days, giving the glass a circular shake each time milk is added; at the end of that time add a small quantity of powdered lye to each jar, to neutralize acid and liquify the milk, so that the pipe can be used same as in normal milk, and proceed to make the test in the usual way by the Babcock machine. By making this test every week, and averaging percentages, it will readily be ascertained how much fat each patron is sending, and dividends are apportioned accordingly.

Now to commence with the work done at the school proper. Owing to scarcity of milk, we were not able to commence until the 25th April, and from that date to the close of the season, the school was open to pupils from all parts of the province, and in all, 60 attended, chiefly cheese-makers, who came from all parts covered by this Association, and it is highly gratifying to know that they came with a sincere desire for information, more particularly along the line of cheese-making; and although the use of the Babcock machine and Quevenne lactometer were fully taught, it was the most improved methods of manufacture that was sought after by those who came; and I am pleased to say that our endeavors to impart the information sought for, were fully appreciated, and the results have been very satisfactory.

Pupils were allowed to come and go as they chose, consequently the time of attendance varied considerably from one to ten days. The executive of the Association deemed it advisable to appoint one travelling milk inspector and cheese instructor, to be in connection with the school, to be available upon application from any factory. All applications to be addressed to me, and consequently I had considerable correspondence to attend to.

Mr. Millar, the inspector appointed, spent a considerable time at the school in the early part of the seacon, applications not coming in for his services until the latter part of May; also spending a day at the school each month, to note any changes in the manufacture which would be deemed advisable to recommend for adoption to the several cheese-makers with whom he came in contact, so that a uniform system of making might be pursued, which is is very desirable.

While at the school in conjunction with myself, we carried on a series of experiments with fodder milk. First, to establish clearly the effect of using larger and smaller quantities of rennet; 2nd, the effect of using different quantities of salt; 3rd, the heating or cooking the curd to different temperatures; 4th, making in vat *versus* sink; 5th, draining more or less same kinds of curd; 6th, drawing the whey off at different stages. The conclusions arrived at from the foregoing, when cheese were about one month old, were: First, cheese made with larger quantity of rennet decidedly the best; 2nd, those made with the less quantity of salt preferred; 3rd, low cooking of the curd was found to be very objectionable, too much moisture being retained, cheese mushy, and of poor color; 4th, cheese made in sink incomparably the best; 5th, curd that was fairly well drained proved better than those which had considerable moisture left in them; 6th, drawing off the whey early also had a decided advantage. During the summer months, owing to my time being fully occupied otherwise, no particular experiments were carried on other than from our every day vat work.

On the 15th September, word came by telephone that I was wanted at once, very urgently to come to a factory in the northern part of the county of Perth. Upon enquiring, I found that the cheese-maker could not make the milk into cheese, and consequently had given orders for it to be kept at home, until he could find out the cause of the trouble and have it remedied. On questioning the party over the wire, I could not arrive at anything definite as to what might be the cause of the trouble, but told him to order in the milk for next morning; that I would come on the late train, and be there to attend to it. I arrived at the factory about 11 o'clock at night, and had all the particulars related to me as far as was known with surmisings of what might be the cause of the trouble. Next morning upon examining the factory and surroundings, milk and cans, I could not agree with what had been said to me as to the supposed cause of the trouble. However, as I said to the directors of the factory, who had met, we were likely to find out the cause before the day was over; and commencing in the usual way, I found on comparing thermometers, that the one in use, a floating thermometer, was four degrees wrong. When the milk, as the cheese-maker supposed, was 88°, in reality it was 92°, too hot by far for the application of rennet. After heating up the milk in the usual way to desired temperature, and waiting till it was ready to set by the rennet test, I made a comparison of strength between the rennet which was in use, and a sample which I had taken with me of the same brand, and found that the sample I had taken with me, which was all right, was eight times as strong as the other. I said at once, "Here is where all the trouble lies." Is seems that the rennet had been gradually losing strength, without the cheese-maker noticing it, and hence all the trouble. New, fresh rennet, was procured, and there was not any more trouble. I must say right here, that those parties who are in the dairy supply business, should be very careful that what they supply is as it should be, all right.

Now in the case with thermometers, it will readily be seen how great loss and damage may arise from the use of a thermometer which is not correct. Of course, cheese-makers should have a test thermometer to compare with, but a good one comes expensive, and some will not care to incur any more expense than is absolutely necessary.

In the beginning of October, we conducted a series of experiments with milk of different qualities, to determine and prove beyond a doubt, the great injustice to patrons of pooling and paying for milk on the present system, and I think the result of these experiments, along with others which have been conducted on the same line, will convince the most sceptical that in order to mete out justice to all, milk will have to be paid for according to quality, or the quantity of cheese it will make.

To make results of those experiments plain and intelligible, we have taken one from each of the different qualities of milk, and tabulated them as follows:

| Lb. of milk. | Per cent. of fat. | Lb. of cheese. | Lb. of milk to lb. of cheese. |
|---|---|---|---|
| 500 | 3.20 | 45.12 | 11 05 |
| 500 | 3.30 | 46.19 | 10.82 |
| 500 | 3.60 | 48.37 | 10.33 |
| 500 | 3.80 | 51.00 | 9.80 |
| 500 | 4.00 | 52.62 | 9.50 |
| 500 | 4.10 | 52.75 | 9.47 |
| 500 | 4.30 | 54.90 | 9.10 |
| 500 | 4.50 | 56.73 | 8.81 |

The milk used for those experiments was selected as it came to the factory. From our previous knowledge of it by testing, we knew about where to look for the different qualities, as we found last year the increase in cheese is scarcely in proportion to the increase in the per cent. of butter-fat, but nearly so—so very near that we consider the system of paying for milk according to quality, the only one now by which patrons will get justice. By the adoption of that system our cheese product will be improved to a greater extent than by any other agency, for it will certainly be a great incentive to patrons to feed and care for their cows properly; it will also be to their advantage to see that the milk is properly aired, for by neglecting this, there is a possibility of a correct sample not being taken. And now seeing that we are on the eve of great improvements and possibilities, let us, as cheese-makers, look sharply after all details in regard to the making and curing of the cheese. It may not be amiss here to throw out a few general hints on that line. First, in receiving milk, do not take any in that your experience and good judgment tells you will be a detriment to your cheese, for the risk is too great, financially and otherwise. After receiving the milk, raise the temperature gradually to 86°, stirring very carefully all the while. Apply the rennet test to ascertain when the milk is ready for the application of rennet; do not trust to taste or smell or to any guess work. Set your vats so they will dip in from $2\frac{1}{2}$ to 3 hours after rennet is added. For spring cheese use enough rennet so that vat will be ready for the knife in from 15 to 20 minutes. For summer, have them ready in 30, and for fall about 40 minutes. When ready for the knife, cut very carefully; start a little early, and take plenty of time. I find unsatisfactory results quite often arise from the cutting being done too hurriedly. After cutting, the curd will be found very tender, which necessitates very careful handling for a while. If not carefully handled, losses will surely occur.

Do not apply heat for 10 or 15 minutes (unless when milk is working fast) after which raise the temperature gradually to 96°, not over it, unless in some cases just before dipping. As soon as curds are nicely heated, draw off part of the whey, so that very little time will elapse after curd is ready until it is dipped.

For spring cheese, dip on the very first appearance of acid on iron; for summer and fall, allow about $\frac{1}{4}$ inch dip into slat-bottomed sinks; stir curds sufficiently dry before allowing to heat. Gassy curds will not require as much draining. Aim at leaving a little more moisture in them, it will hasten the process. When matted, break into pieces for the deliberation of whey, turning over at intervals, working it up a little deeper each time, never allowing whey to lodge around the curd while in sink. Grind early, say

when curd starts 1¼ inch on iron, unless in spring, when one-half that will do. Keep the temperature up, until this stage is reached. After grinding stir and air well, especially summer curds, never salting under one hour after grinding, and sometimes it will be found to be an advantage to leave them exposed much longer, or till the curd will have a nice velvety feel when taken up in the hand.

For spring or early maturing cheese, salt light, say 1½ to 1,000 lb. milk for summer from 2½ to 2¾; and for fall, from 3 to 3¼ will be found sufficient if curds have been properly cooked and drained. Hoop in from 15 to 20 minutes after salt has been stirred in; apply the pressure very gently at first, or until the whey begins to run clear, after which all the pressure required may be safely applied.

About one hour after curd has been put to press, cheese will be sufficiently firm for handling, when pressure should be removed, hoops taken off, and cheese dressed, by paring off any corners, and fixing bandages neatly, putting back to press again; and the last work done at night in the factory, should be the pressing of the cheese. Loosen up and turn again in the morning, paring off any corners which may be caused by imperfect fitting followers dressing down, generally putting back to press again for four or five hours, when they will be ready to take out and place in the curing room. And now, I may say just here, the cheese are only about half made, for it is possible to spoil the very best made cheese by neglect in the curing room. When taken in, the temperature should be carefully noted. For spring cheese, we recommend 70°; for summer, generally speaking, keep them as cool as possible; and for fall, make them from 60° to 65°, and if an even temperature of 60° can be maintained, it will be found the most suitable. Place new cheese on top shelves, moving them down as room is required. More satisfactory results will be obtained than by placing them on the shelves regardless of position, turning them every day.

And now, in conclusion, again I would like to impress strongly on my fellow cheese-makers, the great importance of giving all details relating to the business the very closest attention, for it is a business which will not admit of any carelessness or neglect, without loss of reputation, the loss of which, cheese-makers cannot afford. And in justice to our patrons, who supply the milk, and are becoming every year more alive to their interests, and justly so, it behooves us to do all in our power to improve the quality of our product. This means better prices, and more money in their pocket. On the other hand, we will expect them to supply us with well cared for milk, of good quality, and by working harmoniously together, and with concerted action, we will still be able to maintain the proud distinction Canadian cheese has already won.

Mr. BLANEY: Is it possible to save Saturday night's milk in good condition till Monday, and, if so, what is the best plan?

Mr. BELL: It is possible. I would advise airing it well then cooling it off to sixty degrees or below. If you have ice put the can in deep; if not keep it in a cellar, airing it often.

Mr. BLANEY: The plan I adopted was first to air it by straining and afterwards dipping, then putting the can in water above the level of the milk and adding ice.

Mr. BELL: That is a very good point; keep the milk cool and it will keep.

Mr. E. D. LEE: Is there not some system of testing rennet?

Mr. RUDDICK: There ought never to be any doubt as to the quality of the rennet. You can always get a fresh supply, and even if you run out, a neighboring factory can help you. The same quantity of milk should always be coagulated by a given quantity of rennet. That is the test of some of the inspectors and they carry rennet of known strength by comparison with which they test the rennet in the factories.

Mr. LEE: I can give you a good test for rennet. If to two drachms of rennet is added, eight ounces of water and two drachms of the adulterated rennet is put into eight ounces of milk at eighty-eight degrees and stirred with a spoon, as many minutes as it takes to begin the coagulation of this eight ounces of milk will equal the number of ounces of rennet to be used per thousand pounds of milk. This will vary a little, but I have known it for eight years, and have found it of invaluable use.

## ASSISTANT INSPECTOR MILLAR'S REPORT.

Mr. T. B. Millar, assistant inspector, read the following paper: Having been appointed as assistant instructor at the Tavistock Dairy School and inspector of milk by the executive of this Association, I now take a great deal of pleasure in submitting to you my second annual report.

I commenced my duties on the 20th of April at the Tavistock Dairy School, and remained there assisting Mr. Bell till the first part of June, when the work of inspection began. Mr. Bell received applications from fifty-one factories. I visited fifty of of these, and Mr. Bell the other one, as I could not get to it as soon as they wanted me. Being the only inspector appointed for Western Ontario my visits extended over a large tract of country.

The following is a list of the factories that I visited in the different counties.

OXFORD: Anderson's, Brownsville, Culloden, Diamond, Verschoyle No. 1, Verschoyle No. 2, Thamesford.

PERTH: Avondale, Newry, Silver Corners, Monkton, Newton, Carthage, Milverton, Black Creek.

HURON: Bluevale. Brussels, Ethel, Centralia.

BRUCE: Dunkeld, Ripley.

GREY: Singhampton.

SIMCOE: Cookstown, Avening.

WENTWORTH: Sheffield, Woodburn.

BRANT: North Brant, Lynden.

LINCOLN: Caistorville.

WELLAND: Humberstone.

HALDIMAND: Jarvis West, Walpole.

NORFOLK: Vittoria, Walsh, St. Williams, Black Creek, Guysboro', Lynedoch, Nixon.

ELGIN: Bayham.

MIDDLESEX: Geary's, Dorchester Gore, North Branch, West Nissouri, Union Hill, Cherry Hill, Birr.

LAMBTON: Gala Bank, Uttoxeter, Forest.

In the course of my duties I travelled four thousand miles by train and drove eight hundred and twenty-five miles. I tested 3,953 samples of milk with the Quevenne lactometer, and 1,130 samples with Dr. Babcock's milk tester, making a total of 5,083 tests. 197 of these Babcock samples tested 4.00 per cent. and over butter-fat; 908 tested between 3 and 4 per cent. butter-fat; 25 tested less than 3 per cent. butter-fat; and 3 tested less than 2 per cent. butter-fat.

The poorest sample of milk that I received for inspection, tested 4-5 of one per cent. butter-fat, and the best sample tested 5.20 per cent butter-fat. During the months of May, June, July and August, samples taken from the vats tested from 3.40 to 3.80 per cent. butter-fat. In the months of September, October and November, samples taken from the vats tested from 3.80 to 4.20 per cent. butter-fat. I went to the farms of ten patrons to get samples of milk as drawn from the cows. I laid information before magistrates against these ten patrons for tampering with their milk. They all admitted the charges and paid the penalty without going to a trial, the fines running from five to twenty-five dollars and cost. Seven of these charges were for diluting with water and three for taking cream. I found only one of these cases in a factory where the inspectors had visited last year, in the other cases there had not been any inspection at the factories for some years. There were five cases in the county of Norfolk, three in Middlesex, and two in Lambton.

I wrote fifteen letters to patrons regarding the quality of their milk, and as far as I can learn from directors and cheese-makers there was an improvement in every case. I found the milk on the whole of a much better quality than last year. I attribute a good deal of the increase in butter-fat to the influence of the Babcock test. I found quite a number of these milk testers in the factories this season. The Babcock test is a wonderful factor in raising the per cent. of butter-fat in the ordinary cheese factory; corn

ensilage, oil-cake and meal are very good, but they are "out of sight" when compared with the Babcock test. In comparing the reports of 1892 with those of 1891 I found in almost every case that the average for 1892 was higher than 1891. The Babcock test has become a general favorite, because it never tells a lie, but "gets there" every time. It is surprising the amount of respect these cream thieves and water vendors have for this test. They will say, "Well I did not do anything with the milk, but if the Babcock test indicated that it was wrong, I believe that some one must have been at it;" and they are willing to pay the fine imposed rather than go to a trial. I would strongly recommend the managers of every cheese factory to get a Babcock test, have a few samples of milk tested every day, and be sure to keep a record of the test.

The majority of the factories that I visited might be classed as clean; others were not as clean as they should be, and a few were very dirty and untidy. In calling the attention of the cheese-makers to this matter, some of them would say that the price for making was cut so low that they could not afford to hire help enough to keep the factory as clean as it should be kept.

I found a number of making-rooms that were unfit for the manufacturing of cheese, the floors and gutters were leaking and pools of whey stood under the factory. While these things exist it will be impossible to have nice, clean-flavored cheese. Quite a number of patrons pay very little attention to the straining or aeration of their milk. I would say to these patrons that this milk is to be manufactured into food for human consumption, and should be handled as carefully as the milk that is used on their own tables. The patrons have a great deal to do with the quality of the cheese, as they handle the raw material, and if that becomes tainted or partly sour, it is almost impossible for a cheese-maker to make a first-class article out of it. With regard to the cleaning of the milk-cans, I am sorry to say that a number of the patrons pay very little attention to this, especially in those sections where the whey is returned to the patrons. I know for a fact that some of the cans are left standing with the whey in them till six and seven o'clock in the evening. I have helped some patrons to carry in a can of whey at six o'clock and observed them empty the whey and wash the cans with two or three quarts of warm water, and then strain the milk into it at once. While patrons are so indifferent about taking care of their cans it will be impossible for them to keep their milk in proper condition. I would urge the managers to provide some way of feeding the whey at the factory, and not allow it to be returned in the cans on any account, as it is one of the greatest evils in connection with our industry. Out of the fifty-one factories inspected, forty-one of these return the whey in the cans, the other ten feed it to hogs somewhere near the factory. This is a very bad state of affairs indeed. If we cannot do away with this evil entirely, those that return the whey should at least be in the minority.

With regard to the making of cheese, I found that a number of our cheese-makers mature their milk too much before setting. The test we used at Tavistock Dairy School, was one drachm of rennet extract and eight ounces of milk at 86 degrees, and have this coagulate in about 18 or 20 seconds; a number of the cheese-makers were using the same quantities of rennet and milk and having it coagulate in 11 or 12 seconds. By maturing the milk to this degree, it becomes partially sour and will develop bad flavors; if the milk was set at 18 or 20 seconds it would be much easier handled and a finer quality of cheese could be made from it.

I would advise every cheese-maker to get a drachm measure for the rennet and an eight-ounce glass for the milk and use them for testing the vats. Use the rennet test every day with every vat; then you will know exactly where you are before you start the process of manufacture.

In the forepart of the season and especially in the month of June a number of the cheese-makers were troubled with open cheese. By enquiring into the matter, I found in the majority of the cases that they were not maturing their curds as long as they should, and were putting it to press too warm. Some were putting their curds to press at a temperature of 91 and 92 degrees. This temperature is altogether too high. To overcome this difficulty, after dipping the curd keep it warm up to the time of milling, mill early, air and mature the curd well before salting, and not put it to press at a tem-

perature above 85 degrees; I would rather have it 80 degrees than over 85 degrees. By this method a firm close meaty cheese can be obtained.

I found that quite a number of our makers were developing too much acid in the whey, some of them dipping their curds with a half to three-quarters of an inch of acid. This is a great mistake. I do not think that it is possible to make a fine meaty cheese out of a curd that had developed three-quarters of an inch of acid in the whey. I do not want more than a quarter of an inch of acid in the whey for any curd, and in the forepart of the season better results can be obtained with an eighth of an inch or less of acid.

On testing the thermometers used in the factories I found that a great many of them were not correct, some of them being as much as four degrees too low while others are that much too high. Every cheese-maker should get a tested thermometer, and keep it for testing the ones in use.

With regard to knives and mills, there are a number of these in use that are quite unfit to work with. Quite often you will find a curd knife with half of the blades loose and some of them missing altogether. With a knife of this description curd cannot be cut properly. Now I do not blame the managers for this. Every cheese-maker should take interest enough in his work to see that his knives are in proper condition to do first-class work. I think that I have used every kind of curd mills during the past season, from the old peg mill of twenty years ago, up to the latest improved ones; some of them would cut the curd properly while others would tear and grind it all to pieces. I consider the Harris, Whitelaw, and McPherson mills amongst the best, and any one of these mills will do good work if handled properly.

Some of the makers pay very little attention to the appearance of their cheese. In some curing-rooms you will find cheese all shapes and sizes, they have been pressed too quickly and not turned in the hoops in the morning, and the result is anything but satisfactory—crooked cheese with projecting shoulders. When I spoke to the makers about these things, they would say: "Well, it does not look very nice, but the buyers do not object;" and as long as they get them off their hands they do not seem to care. Although there are some makers that are careless and indifferent, yet I am pleased to be able to say that we have a number that are first-class makers in every respect. They not only make a first-class article, but are anxious to learn more. To these I would say, "Keep on in this way, and you will show the others that they will have to pick up, or they will be left behind in the race."

I believe on the whole the quality of the cheese made in 1892 was better than that of 1891. But I would like to say to cheese-makers that the reputation of the past will not suffice. Let every one of us do the very best we can in 1893 to improve the quality of our cheese. It would not only mean thousands of dollars to the country, but it would add greatly to the high reputation we have already won for Canadian cheese. It should be the aim of every cheese-maker to turn out an article of the finest quality and finish.

During the month of December I attended nine meetings in connection with cheese factories in the counties of Grey, Dufferin, and Wellington. I addressed the patrons on the production and care of milk, paying for milk according to quality, disposal of whey at cheese factories, fodder corn and the silo, and winter dairying. There was a fair attendance and a live interest was taken in all the meetings. I believe they will be the means of doing some good.

In conclusion I wish to take this opportunity of thanking the officers of this Association, and others with whom I came in contact in the discharge of my duty, for the kindness shown me during the past season.

Burgoyne, January 9th, 1892. T. B. Millar.

Mr. BLANEY: You are the gentleman who had two patrons of the Nixon factory fined?

Mr. MILLAR: Yes sir.

Mr. BLANEY: I won't mention any names, but I want to give the reason of this adulteration. There were some patrons on the outer circle who were supposed to send milk that was not all right, but still there was hesitation to complain of these people for fear that a neighboring factory would get them next summer.

Mr. MILLAR: You want to advocate paying according to the quality of the milk.

Mr. BLANEY: I am down on every man that practises dishonesty. And I am after these men in the outer ring of patrons. I don't want a dishonest patron pooling with me.

Mr. MILLAR: I am sure the manager of the Noxon factory does not wish to have any dishonesty. I went there and tested every sample as it came to the factory. There were two samples that undoubtedly had been tampered with. I went out to the parties and they admitted taking cream.

Mr. BLANEY: I believe the manager is doing his best, but as an old man I want to see his back-bone strengthened.

Hon. Mr. BALLANTYNE: Our friend is perfectly right. Every one who has had to do with the management of factories has found the man in the outside circle a difficult quantity to deal with. Nobody likes to complain of him for fear he will go to another factory. And the other factory is too often quite ready to take him. The only way to overcome this difficulty is to pay according to the quality of the milk.

Mr. RUDDICK: Did I gather correctly from what Mr. Bell said that he was in the habit of using the hot iron test in order to determine the time for salting the curd?

Mr. BELL: No; I go more by the condition of the curd as shown by the feel—the velvety feel of the curd. We use the hot iron to determine the time for milling and find it a good guide. About half way between the time we dip, and the time we salt, and about that time it will draw about one and a half inches on the iron.

Mr. RUDDICK: My object in bringing out the point was that I find that a great many cheese-makers depend on the condition of the curd to tell them when the curd is ready to salt, or more properly ready to grind, because it is a common practise with many to grind immediately before they intend to put on the salt. They judge the curd according to its flakiness or fibrousness. I think that is a mistake, because flakiness is due altogether to its mechanical condition, as I may say, instead of being a condition dependent on the maturing of the curd. That is not my own theory at all, but I have discussed it. If you pile the curd so that it cannot spread out sidewise it will never attain that flaky condition. Mr. Bell put it right when he said he went by the feel of the curd. Nobody can describe that velvety feel, but the cheese-maker knows it.

Hon. Mr. HOARD: How is the sample taken for the Babcock test in the factory in which it is used?

Mr. BELL: While the milk is being weighed or dumped into the can, or while it is in motion we take out two ounces, and put it into the proper jar and leave it there for six days. At the end of six days we test it.

Hon. Mr. HOARD: Let me explain how we make our tests. We have a bottle which, up to a certain mark contains 17.6 c.c. (cubic centimetres) of milk. I have a pipette which contains 5.9 c.c., which is one-third of 17.6 c.c. Each morning I take a sample in the pipette of each can brought in and put in the patron's bottle, filling it one-third full. The next morning I add the third in the same way, and the next morning a third. Then I test.

Mr. J. A GRAY: We have been paying for milk this year according to the quantity of fat contained. I am pleased to be able to say that it has given entire satisfaction, and I have no hesitation in recommending it to the dairymen of Western Ontario. Our samples were taken as Mr. Bell told you in his paper. They were taken when the milk was dumped into the weighing can, when it was thoroughly stirred, and the sample was put into each patron's jar, the jar standing on a shelf alongside. In this way we took a sample a day for six days. At the end of six days we put about half a spoonful

of Gillet's powdered lye, and scattered it over the top of the milk and mixed it thoroughly. The samples always came out right.

Hon. Mr. BALLANTYNE: How did you find the condition of the milk as compared with previous years?

Mr. GRAY: There is a great difference; our milk comes in better shape.

Hon. Mr. BALLANTYNE: How much cheese did you make?

Mr. GRAY: We made 182½ tons.

Hon Mr. BALLANTYNE: How much extra do they pay you for making the test?

Mr. GRAY: One hundred dollars.

Hon. Mr. BALLANTYNE: Do you consider that sufficient?

Mr. GRAY: Yes, for the number of patrons we have—ninety-six.

Hon. Mr. HOARD: How much more cheese do you think you made from the same quantity of milk by reason of the Babcock test?

Mr. GRAY: I will give you our averages for the last two years. In 1891 the average was 10.97; last year it was 10.58. On August 30th, 1882, I made an experimental test with 2,100 lb. of the richest milk. The per cent. of fat was 3.80; the weight of green cheese was 216 lb., or an average of 9.72. In October I weighed the cheese and they weighed 210 lb. On September 1st I made an experimental test with 2,100 lb. of the weakest milk. The per cent. of fat was 3.55, weight of cheese (green) 200½ lb., average 10.47. On October 1st I weighed the cheese and found it weighed 195 lb. In 1891 we got milk at our factory that showed 1.80 per cent. of fat. This year, since starting with the test, we have found none under 3 per cent.

Hon. Mr. BALLANTYNE: It occurred to me when Mr. Millar was reading his report to say that the factories around Nixon were exceptionally fine this year. As showing the results of the instruction given at the dairy school, one gentleman told me that he had sent his cheese-maker three times, and I can testify that there never were better goods made. Now, with regard to the quality, we have been teaching the necessity of making the early cheese ripen quickly. They are made to be eaten, not to be kept. There is not an importer in England who buys early cheese intending to keep it more than a day or two. If he buys them on Monday he wants to get rid of them before the next Saturday. Just as Mr. Bell says, we have found it well to use rennet freely, dipping just when it is beginning to change and salting light. Salt light, and you will get the cheese in good condition. They were never equal to what they were last spring. I happened to be in England when the shipments of early cheese were arriving, and I never saw them in such good condition. When the season advances, you may keep the cheese longer, but the early cheese should not be made to keep. Keep up the temperature in the cooling room; use an abundance of rennet, and salt light. It is a very important matter for our reputation for the remainder of the season that our early cheese should not cause dissatisfaction. It is important that our cheese-makers should visit other factories. Our best and oldest makers will sometimes get off the track, and nothing assists them so much as to compare notes with others. I would not keep a maker if he would not take the time to make these visits. I have made cheese when we but imperfectly understood the process, and I have ridden long distances to see the work of men who had the reputation of being good makers. I always learned something in every factory I visited. The principles of cheese-making are few and easily understood, but it requires practical experience to make a maker of any value. Discussion and theory have their place and their use, but a cheese-maker never was made at a dairymen's convention. The discussions here bring out the principles and incite men to improvement. I was recently looking over the report of the Commissioners of your Association sent to report on the exhibit at the Centennial Exposition; I happened to be one of them. We there recommended the appointment of instructors and the establishment of a dairy school. We have had the instructors for some time. We have also had a temporary dairy school, which was not capable of doing all the good that might have been done; still the results have been of the very greatest benefit. Going from Canada to the old country we find Mr. Drummond, one of our own makers conducting a dairy school at Kilmarnock, and the universal experience is that it is of incalcuable benefit to them. We should have a

well equipped dairy school in some central locality having good hotel and railway facilities.

Mr. PATTULLO: What is the matter with Woodstock?

Hon. Mr. BALLANTYNE: It is not for me to select a place, but if it were left to me that is the place I would select. This need not be a school for making cheese-makers, but a place from which even the oldest and best of our cheese-makers would derive benefit. With regard to the early cheese, the change that has taken place is most satisfactory. Formerly half the cheese used to leak whey; but we have none of that class now. In England the retailer buys twice a week expecting a lower price when grass cheese comes in, and they buy not intending to hold twenty-four hours. The importer will get rid of the cheese at all hazards. More than that, when you get cheese of that kind ripe they are very nice, and the attendance is to increased consumption, just as with anything else that improves the quality. Another word: The care of utensils is of the greatest importance in order that the milk may arrive in good condition. I would like to see the practise of taking back whey in the cans totally discontinued. This practise involves a loss to all concerned. This is particularly an evil with us because in this country the farmers generally deliver their own milk. And when the whey is brought back in the can the can is left there until all hours, because it is inconvenient to take into the house, and then very often it is washed in a very careless manner. The result is that immense quantities of our goods suffer. We must do everything possible to keep up the quality. You have the best reputation of any cheese-making district in America. The first necessity in the production of a first-class article is to get the raw material to the factories in good condition. If that is done, we have cheese-makers with the skill to turn out a good article.

Mr. BLANEY: If the cans used to bring back the whey are immediately emptied and washed—thoroughly washed—will any harm follow the carrying of the whey in the cans?

Mr. BALLANTYNE: I quite believe that if that is done the cans can be kept clean and harm avoided, but where there are a hundred patrons in a factory there are no means by which we can be assured that everyone takes precaution to secure cleanliness. It would be more economical to feed the whey at the factory. Another advantage would be that if the cans are not used for carrying whey they would last much longer. The sour whey eats the tin off, and you have nothing left but the porous iron. I remember a remark made by Mr. Farrington, whom we may call the father of dairying. He said: "If you start right, you can keep right." I started a factory twenty-five years ago and did not send back the whey. We have not had any difficulty whatever in keeping to that plan. The patrons did not want the whey, and if they did, we could make arrangements to give it back to them in some other way; but if you start the other way it is a difficult matter to get right.

Mr. WOOLLEY: Would you give us in a few words the most practical way to manage the whey question?

Mr. BALLANTYNE: In some factories owned by individuals they feed at the factory, using the whey as sweet as possible. In other places, they sell the whey to a person who feeds it and he becomes responsible for the payment for it. The Elma factory is one of the first factories to introduce the system of paying for milk according to the butter-fat. At one time they sent back the whey, and more inferior cheese than that they turned out I never saw. I could not for a long time find out what was the matter, and had almost come to the conclusion that it was the fault of the soil or the water or something of that kind, but at last I found that the difficulty was in carrying back the whey in the cans. They quit it and they have never had any difficulty since, and no more cheese of an inferior character.

Mr. BLANEY: My object in getting the whey back is to increase the fertility of my land. If I bring back the whey I can add a little corn and feed hogs and get more profit, besides getting my hogs into market sooner, and adding to the fertility of my land. I can bring back the whey in the cans and keep the cans in right condition by emptying them at once and cleaning them.

Hon. Mr. BALLANTYNE : There is no doubt it can be done, but what we are discussing is the question whether it is done.

A Member : How much rennet would you advise us to use ?

Hon. Mr. BALLANTYNE : From the tests made at Tavistock last year, we found that the cheese made from milk in which coagulation was brought about in fifteen minutes was the best. Use a very large quantity in the early part of the season.

Mr. PATTULLO : Bearing out the opinion expressed in a former discussion I have pleasure in moving a resolution. I am not going to advocate it in an address ; the hour is too late. Yesterday I had the pleasure of addressing those then present upon the subject of good roads. I heard a gentleman in the audience asking what good roads had to do with dairying. I think I was able to show that it had a most important bearing upon the dairying industry. I was delighted yesterday to have the President of this Association express himself so strongly in favor of the movement, and also to have the Minister of Agriculture so strongly approve of what I had to say. I trust to have this resolution carried so as to show that the representatives of the dairying industry are alive to their own interests in the improvement of the roads. The resolution is seconded by the Hon. Mr. Ballantyne, and reads as follows :

"That in the opinion of the members of this Association the statute labor system of this country, as carried out in most districts, is insufficient and unsatisfactory in its results ; that we are of opinion that it should be either abolished or modified so as to produce good roads, which are a necessity to the farming community ; and we hereby express our opinion that the improvement of the common roads of the country would reduce the cost of production in the dairy industry, and thus enhance the profits of dairymen ; and that it is the duty and in the interest of all dairymen to promote in every possible way the cause of road improvement ; and we hereby declare that the members of this Association have heard with pleasure the statement of the Hon. Jno. Dryden, Provincial Minister of Agriculture, that his deputy is about to issue bulletins on the subject of road-making ; and we approve of this and of any other practical manner of educating the people of the country on a question of vast public importance—the work of improving the common roads of the country."

A gentleman speaking yesterday made the statement that we had made great improvements in road making in Canada. I admit that that is true, but we have not gone as fast as we might have gone, and, having regard to the standard in other countries we might go a great deal faster now. And we know of no industry of which the results are more important than to the dairying industry. I am going to ask ex-Governor Hoard to say something on this subject. I said that I was a little jealous of the United States getting ahead of us in the matter of dairying and I am almost as jealous of them in the matter of road improvement. There is a strong agitation on this subject now in progress in the United States. I want to state, with all the modesty becoming one of my profession, that we have a much better country then they have. We are ahead of them in many respects and we want to keep ahead of them in road-making. And that is why I want to stir up the dairymen of the country so that what has been done in France and England may be done in this country.

Hon. Mr. BALLANTYNE : In seconding the resolution I have just to say that no class or community is more interested in good roads or more likely to benefit by them than the dairymen. We are under great obligation to Mr. Pattullo for the manner in which he has brought this subject before us, and for the work he has done through his widely circulated paper in calling attention to this reform. The fact is that the newspapers generally have taken up the subject and we have had an agitation in favor of road improvement in the past season such as we have never had before. Nothing illustrates the need of improvement in this respect better than our own experience. Twenty-five years ago when I caught the cheese-fever and decided to start a factory, one of the great difficulties in the way was the condition of the roads in the neigborhood in which I lived. I see some gentlemen here from Downie, and they know what the roads of those days were. They were literally no roads at all. They were impassable, except for a month or two of the year. I happened to be reeve of the township, and made up my mind we had to have better roads. I suggested this to the others and pointed out that statute labor would never accomplish the desired end if we lived to the age of Methuselah. We decided to make a supplementary road-tax. The result is that

we have as good roads as are to be found anywhere. If we are going to make butter in winter, it become more necessary that our roads should be improved, because one of the difficulties in connection with dairying all the year is the bad condition of the roads. I hope that the resolution which has been moved, and which I have no doubt will be carried, will be acted upon as far as practicable, and that we shall see an immense improvement in our roads. I do not expect our roads to equal those of the old country ; we have not the climate nor have we the material. But I trust the agitation which has been going on through the past, started by my friend Mr. Pattullo, will have a good effect and that everyone will do what he can in his own locality to improve the roads of the country.

Hon. Mr. HOARD : In my township, before the annual town meeting took place, the patrons of Hoard's creameries issued a statement showing what the state of the roads had cost them. They made a move upon the electors, and the whole system was changed in comformity with the standpoint of the dairymen. From the organization of the township forty-four years ago, they had expended enough to have paved every road with stone at $5,000 a mile and still have $12,000 in the treasury, and yet they had not one single rod of good roads. The dairymen of this country ought to take the initiative in agitating this question. I want to make a suggestion with regard to winter roads. Get a heavy harrow, which will require two or three heavy teams, and go over a drifted road, down one side and up the other. You will find that it makes the most perfectly broken winter road you ever saw.

Mr. BLANEY : I want to say a word as a pioneer farmer. We must not forget that under the present system the cost of improving the roads comes out of the land-holder. We have a privilege—and it is a privilege of doing part of this work as statute labor. A great deal of fault may be found with the way in which it is done. We should work as faithfully on statute labor as if we were working in our own fields.

The resolution was carried unanimously. The meeting then adjourned.

## THIRD DAY—MORNING SESSION.

The PRESIDENT, after calling the meeting to order, said : Mr. Beam has a few words to say to us with reference to the question of temporary roads which was discussed last night.

Mr. J. F. BEAM : I think the question of improving country roads is one of the most important that is before us to-day. It has been attracting attention throughout the United States, and also in the various provinces in Canada. I have spoken upon the subject at farmers' institutes and other meetings. A plan was suggested to me which I would like to have spoken about last night, but time did not permit. I struck the idea when in Algoma and Nipissing district. The system of colonization roads came under my notice there, and, as I had occasion to travel over a number of these roads, I was surprised at the extent of them and at the excellent manner in which they were made. On the Great Manitoulin Island there is a road from Providence Bay to Gore Bay across the island, a distance of over thirty miles. I have driven that road in less than four hours, and you could not do that unless it was a good road. If you get off these main roads, especially in spring or fall, the roads are far worse than they would be here. I met some of the gentlemen who had the road business in charge. They told me something about the system which was followed. The population is so sparse and scattered that the settlers themselves could not build the roads, and it is necessary that this work should be taken up by some strong hand. The money that is spent is part of the revenue from timber limits. As this revenue comes out of this new country this seems right and proper. I would not criticize such expenditure if it were properly made, as I believe it to be, but are these timber limits not part of our assets also ? It is estimated that there is $100,000,000 worth of timber limits in that country. It is claimed, also, that this province has a very considerable surplus. Could we use that surplus to better advantage

than by using it for the improvement of the roads? I would propose a thorough investigation of the question by a commission which should be empowered to propose a comprehensive measure. If $4,200,000 were appropriated for this purpose it would give $100-000 to each of the forty-two counties of Ontario. Of course, this money should be applied by instalments in a systematic way and the roads should be built in a scientific manner by men who understand road-building. I would not do away with the present road tax, but that tax could be appropriated in a different manner instead of continuing the present system of path-masters. Let the statute labor be commuted in the form of a tax as far as possible and let the money be put in the hands of the provincial commissioners to assist in building the roads. If deemed desirable, this tax could be levied on the frontage principle, as the road improvement would add to the value of the land. I put this only in the form of a suggestion, and have not time to go into the details, but I think these could be easily worked out.

## CORN ENSILAGE.

The following paper was contributed by Mr. E. D. Tillson, of Tilsonburg:

As I have had some experience in farming and particularly in the dairy line, and have been trying to keep up with the late improvements on that as on other lines of business, I thought there might be some here who would like to hear something of my experience—and being well-known throughout western Ontario, I feel it to be a duty rather than a pleasure to give you a little of my experience, and if any of my brother farmers can derive some benefit from what I may be able to say, I shall feel only too glad.

Now, in the first place I would say, that my advice to all those farmers who are favorably located and situated and have suitable farms and appliances for dairy farming, is to go into that line of farming in preference to any other, as I think there is more money to be made on that line, and if not so favorably situated for dairy farming, then I would say, take up on the line of mixed farming, raising and fatting cattle, hogs and sheep, along with as much dairying as circumstances will allow, in order to get all the manure possible to enrich the land. By so doing you can grow more grain to sell than you can without the dairy and stock raising, in connection with the grain raising, at least that has been my experience.

I commenced farming some thirty years ago on a light sandy soil, from which I had taken off a heavy growth of pine timber of most excellent quality, which now if standing on the land as it did then, would be worth $500 per acre. I had two objects in trying my hand at farming: Previous to this, my entire business was lumbering. My first object was to clear up the land that it might look more tidy and pleasing to the eye, as it lay right alongside and partly in the village, and lying wild covered with wind-falls, brush, briers and thistles was a great eye-sore to me as well as others; and then in the next place, I thought that I could raise hay and grain for my horses cheaper than I could buy it and so commenced farming with that object in view.

The first few crops taken off the land turned out very well, but after cropping it a few years the land began to run down and the crops got lighter and lighter, and after constantly cropping for twelve or fifteen years, with always taking off and putting nothing on, except the little horse manure from my horse stable down at my lumber yard, and that manure was all burnt up with fire-fang, so that it was good for nothing. Well, my crops kept getting lighter and lighter, worse and worse, until the land became so poor we could grow nothing but sorrel, wild June grass and Canada thistles. In time I found out that those kinds of crops would not pay the expense of growing them, and so I decided that I should have to try some other system of farming or go out of the business altogether; and probably I should have given it up in disgust and ever after proclaimed that farming would not pay, had it not been for the horrible disgust I had in seeing my beautiful farm just bordering our picturesque village, covered over with that sort of crops—a regular eye-sore to me. So I concluded to try some other system of farming, and to try raising cattle, sheep and hogs and do a

little dairying. I bought a few cows, raised all my calves, fatted the steers and poorest cows and sent my milk to the cheese factory, what we did not require for family use, and we made our own butter. I seeded down to clover as much as possible, using land plaster freely to make the clover grow, and I grew corn, turnips and roots feeding all to my cattle and stock that I grew on the farm except the wheat, and under this system of farming, my land soon began to improve.

In the year 1879 or 1880, I was taking an agricultural paper published in Boston, which had a great deal to say about silos and making corn ensilage for feeding cattle and in the same paper I saw an advertisement of a new book published or written by H. R. Stevens, of Boston, treating on building silos and growing, saving and feeding ensilage. The editor was so greatly taken up with it and recommended it so highly, that I concluded to send for the book, which, after reading, I became as much interested and enthusiastic over as the editor was, and set to work at once building a silo after the old French style of heavy stone walls and as deep in the ground as possible. I spared no expense but made everything as strong and good as I knew how, following the directions given in the book. I may say here that the whole business has been very much changed since that time, both in the manner of building silos and the method of growing and saving the ensilage. Silos are now built very much cheaper and the corn is saved better and with less expense, and making a far superior feed. Great improvements have taken place on this line as well as in other lines of farming since I commenced. I think I built the first silo in Ontario, at least I have never heard of any being built before mine.

I was so well pleased with my silos (I built three the first season) and with the results of feeding ensilage, that after three experience with feeding silage, I decided to go heavier into it and so built another, making four, and at the same time raised the others up higher, making them all twenty-four feet deep—two of them were nine by nineteen feet, one thirteen by nineteen and one five and one-half by nineteen, the latter used as a passage way when emptied to get at the others. I have been feeding ensilage largely and continuously ever since, now about twelve years, and like it better every year; the longer I use it the better I like it.

And now for the good results: I may say that before feeding ensilage, I was raising and feeding steers for export. I fed them all the good hay, both clover and timothy, they would eat with chopped stuff, corn meal and turnips, with good pasture in summer, and thought we were doing exceedingly well when we got them to weigh 1,300, 1,400 and sometimes as high as 1,600 pounds at three years old. We frequently had trouble with them getting the scours, and getting out of health and off feed; but since feeding ensilage we have never had a sick steer or off in feed. And instead of keeping them till three years old, we now turn them off at two or two and one quarter years old and make them weigh from 1,300 to 1,500 and some as high as 1,600 pounds, saving one year's feed, use of money, time and expense of feeding. As for the cows, we get nearly double the milk from the same number of cows that we did before feeding ensilage; the cows are healthier and larger than before, and always fat enough for good beef, in fact, too fat to suit me.

But this is not the greatest advantage: I find that I can keep my cattle for one-half the expense I could before, and not only that but I can keep four head of cattle where I could only keep one without the ensilage, from the same number of acres. Before feeding silage I could only raise an average of one ton of hay and about fifteen bushels of wheat to the acre, and the first few years only ten tons of ensilage corn to the acre, but for the last five years, I have averaged twenty tons corn ensilage to the acre, two tons of hay and twenty-eight bushels wheat. This year I had three tons of hay and forty-three bushels wheat to the acre—this wheat was grown on the corn land, sown immediately after taking off the ensilage corn, thereby saving one year's loss of land by summer fallowing, the old way, besides the expense of plowing and harrowing the land a number of times. So you see how by feeding ensilage, I have increased the fertility of my soil. This wheat weighed 63 lb. per bushel.

This year I am building a new dairy barn and stable, a very large brick building with stone basement under the whole main building 60x125 feet with two L's, one 48x46 the other 36x46 and all 36 feet high to eaves from basement floor, the basement

is 9 feet high in the clear cement floor, walls all plastered with cement and all ceiled overhead with matched lumber; thoroughly lighted and ventilated with abundance of pure spring water constantly running to each cow's head in stall or stanchion, with room for 120 head of cattle; three rows of cattle in main building with three cart roads running the whole length of the stable, two for carting out manure; one eight feet feed passage, one six feet feed passage. Two drive floors above running crosswise of main building and through the L's; one 24 feet wide passing alongside of silos on which to thrash and also cut the ensilage corn. A stationary steam engine also on one corner of this floor and a boiler-house outside 100 feet away.

The other drive floor near the other end of the barn is 13 feet wide and runs through the other L with horse stables on one side of this floor over the cow stables, but a perfectly water-tight floor under the horses. In this new barn I have four silos built of solid stone and brick walls two feet thick, 12x19 feet each inside measure and 45 feet high, each holding 250 tons or 1,000 tons in all. I put 600 tons this season in three of them which did not quite fill them. I adopted a new and much less expensive way this year of filling and saving the ensilage. I had the cutting box on the barn floor, with long carriers to elevate up to top of silo, and did not tread it down while filling as formerly, nor did I cover it with air-tight plank with two feet of earth on top of covers to weigh it down as I used to do, but this season I had only one man in the silo to keep it level while filling and when full put on for cover about one foot in depth of oat hulls which we use for bedding when taking it off. I find on taking out the ensilage that it has kept just as well as it did before without all that expense of treading and weighing down; in fact I never had such good and sweet ensilage before as I have now, for the reason that I never had the corn come so near to maturity before harvesting.

I planted very early—the middle of May—planting it farther apart both rows and hills, rows 36 inches and hills 18 inches. Formerly the rows were 30 inches and the hills 12 inches apart. I tried an experiment the year before and planted half the field here and there so as to have the same quality of land in each half, planting the old way, rows 30 inches, hills 12 inches, and the other half, rows 36 inches, hills 18 inches. When harvesting I weighed several acres of each from different parts of the the field, and found that the wide planting produced the most tons to the acre and the best quality, also coming nearer to maturity, so this season I planted it all wide and let it grow as long as possible before cutting and escape the frost or till about the middle of September. I planted five different varieties for experiment but mostly the Mammoth Southern Sweet, as I like it the best and had good roasting ears.

I find that planting the corn wider apart lessens the cost of producing; it takes less seed, less planting, hoeing and cultivating. It is quicker harvested and more easily handled on the wagons and in the cutting box as you have a less number of stalks in the sheaves to handle for the same weight, and consequently it is all handled quicker and the quality is better, so that this year I have grown and harvested my ensilage much cheaper than ever before. It formerly cost me from $1.25 to $1.75 per ton. This year it cost me only 90 cents per ton; 50c for growing including plowing and preparing the land, seed-planting, hoeing, cultivating etc., and 40c for harvesting, cutting up and putting into silo all complete, making the ensilage cost me when ready for feeding only 90c per ton. We kept account of the cost and weighed several acres of the corn on our hay scales near the barn so we know just what we have, and then when you realize that two tons and a half is equal to one ton of best quality of hay in feeding value, and healthier and better feed for producing either milk or fat and that you can grow from twenty to twenty five tons of it to the acre, you see what great advantage the silo is to the dairy farmer, and more particularly for sandy soil.

Now you will naturally want to know how it has paid me to keep cows. I may say, that after a few years' experience feeding ensilage I started a milk wagon selling milk, cream and butter around town at 4¼ cents per quart for milk (4 cents in summer and 5 cents in winter,) cream from 20 to 25 cents and butter from 16 to 28 cents, average 20 cents per pound. I sold about half the milk and made the other half into butter; in this way the gross cash returns from 45 cows were from $3,000 to $3,600 per year

and milk and butter used in two families, not counting the skim and butter-milk fed to calves and pigs and milk and butter used in two families, or from $70 to $80 per cow.

I set my milk in deep pails in running cold spring water and use the barrel churn. I have now a separator and a Babcock tester and a steam engine which I have not yet used, but after a few weeks I expect to get in full swing with all the modern improvements. I have scales in my stable and weigh and keep record of each cow's milk, and so will begin weeding out all the poor milkers. I raise all my heifer calves and keep the best ones and make a beef of the others and go largely into raising hogs as I think that is the next most profitable branch of farming in connection with the dairying.

My cows all over four years old, with the exception of three or four, are nearly full blooded Durhams. I kept full-blooded Durham bulls for the past twelve years, but four years ago I bought a Holstein bull and cow so all my young cattle up to three years old are a cross of Durham and Holstein. I have a lot of young Holstein heifers coming on, with several now giving milk. I think the change will improve the cows for milk but not near as good for beef, particularly steers for export. I am coming to the conclusion that the general purpose cow is not what we want; either go in for beef or for milk, one or the other but not both in one.

I find that with me there is no other way whereby the obnoxious weeds, such as the Canada thistles, rag weeds and pigeon weeds can be so easily, cheaply and thoroughly eradicated, as by growing fodder corn. In the first place, the extra amount of corn that you will get by thorough and constant cultivation, hoeing and stirring the land, will pay for all the extra labor. In order to completely subdue and kill all of these weeds in one season, it is necessary that the cultivator and hoe should be kept going through the whole season until the corn is nearly full grown, and even after that if I find any weeds have made their appearance, I have my men go through the rows with the hoe and cut them out right up to the time of harvesting or taking off the corn. As soon as the corn is taken off I plow and sow the land to winter wheat, or if it is desired to use this land for spring crops for seeding down, I gang-plow and harrow it after taking off the corn, so that there is not a possible chance of the weeds getting a start and one season cultivated in this way will kill out completely any kind of weeds. It is the cheapest way that it can be done as you get pay for all the extra labor of getting extra heavy crops on account of the extra cultivation, and there is no other crop that will pay as well for the extra cultivation as the corn crop will.

I have found no way whereby Canada thistles can be completely subdued and entirely killed out in one season except by constant and thorough cultivation, and not letting them even see daylight during the whole season. Of course thorough summer fallowing, frequently plowing and dragging the land all through the summer, would do it, but in that way you would loose the use of your land one year, and that would not pay. I grow different kinds of crops in rotation so as to have a corn crop come off every three or four years. By so doing I keep the weeds subdued and in that way have got my land very clean. I find that it pays me much better on my sandy land to grow corn crops for this purpose than to grow root crops. Now I think I have given you some of the advantages there is in growing fodder corn, using silos and going into dairying rather than growing only grain and grass, and the sooner our farmers get into this way of farming, the better they will be off.

## SOME INSECT AND FUNGOUS ENEMIES.

Prof. Fletcher, Dominion Entomologist, was then called upon. He said: The subjects upon which I am to speak to you interest you very much, but I believe that many of you do not know how much they do interest you. I have heard a good many discussions about the saving of one-tenth of one per cent. in a hundred pounds of milk in marketing your cheese and butter, and no doubt these matters are of interest. But it often happens that in directing attention to one thing, sight is lost of something more important. There is nothing that the farmer loses more from without knowing it than

from the insect pests that attack his crops. The statement has been frequently made that every farmer who grows crops of any kind, whether they be live stock or field crops, loses one-tenth of all he produces from the attacks of insects. The sooner the farmers realize the truth of this fact, the better for them. There are two classes of enemies from which farmers suffer, and which they take very little trouble to guard themselves against. One of these is parasitic fungous plants and the other the attacks of insects. I am going to speak later on one of the most destructive fungous diseases, viz., the potato rot, but first, I wish to speak on a subject of great immediate importance to you—the horn-fly. You have heard about this insect; it has been considerably advertised in the papers. It is a great blessing to you that it came in such numbers as to compel the farmers to pay attention to it. It is not necessary for me to go into a long scientific description of the horn-fly, but I will refer to some of the mistakes in statements that have been made about it, and will also mention some of the best remedies. Some remedies recommended against insect foes are too complicated, and these, for that reason, farmers will not even try. The chief thing I came here for, was to draw your attention to two standard remedies, one of these is kerosene emulsion for horn-fly which is made easily and is used easily. The other is the Bordeaux mixture for potato rot which is a simple mixture of blue stone and lime. These substances are easily procured, and if you will use the mixture, you will save a large part of your potato crop. The horn-fly is so called because it has a habit of settling on the horns of cattle. It is a new pest, which has come to us from Europe. It is native in Europe, and, like many other insects it does but little harm in its own country. But, coming to another country where the conditions are favorable, it multiplies rapidly. The reason is simple. Every animal has its parasites. This is true even of the smallest insects, and if these parasites are checked the animal itself increases. In the localities where an animal has been long in existence there a balance is established and maintained. But, if the animal is removed to surroundings where the parasites have not yet obtained a footing it grows unchecked until such time as the parasite also appears. When a man wishes to grow some particular crop he must keep in check its enemies. In olden times, they had but few insect and fungous pests, because there was not an unduly large proportion of any one crop grown. The requirements of civilization now demand that large crops of one kind should be grown in suitable localities and so man must be prepared to meet the special enemies of that crop which he thus attracts to the locality. The horn-fly is one-half or one-third the size of the ordinary house-fly, which otherwise it very much resembles. It is even more like the ordinary cattle-fly that attacks cattle late in the season and also comes into houses and bites us. Many will tell you that the house-flies in the fall bite worse than earlier in the season, but it is an entirely different fly, and the reason why they do not enter the house earlier in the season is because there are not so many of them. The cattle do not mind this fly very much, because it settles on the legs and they can easily dislodge it. But the horn-fly settles between the shoulders on the base of the tail and around the head, in fact where the cattle cannot knock them off. It is a much more active fly than the other. When it is dislodged by the head or tail of an animal, it moves to another part of the animal to get out of the way, and so at last reaches a place where the animal cannot get at it, and the numbers soon become very large in these places. I believe there is more rubbish in the newspapers now about entomology than about any other branch of study. Farmers often try the remedies there proposed by people who know nothing of the subject, and because they fail, come to the conclusion that no remedy is of any use. But if they want information let them go to the proper sources. There are several farmers' magazines and newspapers in the country that make a specialty of publishing this class of information. There are between thirty and forty insects that every year attack crops. The life-history of most of these is now known, and it is perfectly possible to find and use remedies which are quite within the reach of any man who suffers from their attacks. One of the mistakes which has been published in many newspapers is that the horn-fly in some way injures the horns of an animal. The fly exists in four states, as is the case with all insects. First, in the form of an egg; then it appears in the form of a soft white maggot. Can that eat into a hard horn? Common sense tells us that it cannot. The only injury the horn-fly does the animal is in its mature

state, when it bites the animal and sucks its blood. Now let us ask the question. "Does this cause a loss of one-tenth of one per cent.?" No; it may cause the loss of 50 per cent. or one-half the milk the cow would otherwise give. By accurate account it has been found that cows have lost one-half their milk and fatting stock have gone off one-half in flesh when worried by this small enemy. Some people will tell you that the horn-fly is only the ordinary cattle-fly, but I believe this is only because they were too lazy to find out the facts and not candid enough to admit their ignorance. When the cattle have gone off one-half in flesh you can imagine how they must have suffered. It must be like a person having toothache all over. We hear much about treating cattle humanely. One way to do this is to guard them against insect pests. How can cows give milk when horn-flies and cattle-flies are on them to worry them to death? Is it not a fact that every spring, even in this premier province, you will find some cattle with lice on them, and all the owners say is, "Oh, they are nothing; when they go out into the pasture those will all disappear." In one of the very best barns of this country I found lice on the cattle, which must have caused a considerable loss in the production of milk. The man in charge thought he was taking every pains to secure success, analyzing the milk, weighing it every day and so on; and yet there was a big drain from his profits because of these little animals that he could have got rid of in ten minutes. Let every one remember that these pests *can* be got rid of, if you will give the necessary time and attention. You do not begrudge the time you give to your cattle; you do not seek to save work if by so doing you are going to improve their condition. The nervous constitution of a cow has a great deal to do with the quantity of milk she will give. You were told by Governor Hoard about how in one stable where a number of milking cows were, there was a distinct falling off in the quantity of milk, because a woman, a creature the cows had never seen before, passed through the stable. Do you think that an animal so nervous as this showed the cow to be, would be, affected by having these insects worrying her all the time? There is again another pest, the warble-fly. This fly lays her eggs on the back of the cow, after the maggot hatches out it is eventually buried in the flesh, beneath the skin on the animal's back; while it is buried in the flesh it worries the cow terribly. Did you ever see one of them magnified? I will draw one on the black-board. You see it has along its back, lines of spines or spurs. The movement of the insect causes irritation and produces a festering sore, and in this the maggot lives. You may have sometimes watched a cow lying in her stall chewing the cud. Her jaws are moving slowly. Suddenly she will stop and quiver all over. That is because one of these little creatures has moved. And, what affects the farmer, because of these insects that cow is going back in flesh and giving less milk than she would otherwise do. And now about the lice I spoke of, there are three different kinds. There is the big black louse. In the Southern States this is a factor that must be taken notice of by every farmer or they will destroy the usefulness of his herd. Another is smaller and is called the small red louse. Then besides that we have the blue louse; this worries the cattle but does not bite them. All kinds of lice have their own proper animal upon which they feed. They may go off to other animals, but they will stay for only a short time, and it is but seldom we find the lice of one animal upon any other. Lice which worry animals may be divided into two classes, those which bite the animal, and those which feed on the hair and skin but irritate none the less. No matter how small insects may be, they are perfect in every detail of their organism, and each has its life-history. Now let us return to the horn-fly. It is in the perfect state alone, as I have said, that it injures cattle, and it does so by sucking their blood. Some animals suffer more from this than others do; and the loss of blood is not the only difficulty; the irritation produced is evidently very keen and they rub or lick the spot upon which they are bitten, until they produce sores, mainly on the neck and udder. Now as to the remedies. I would mention some fifteen or twenty but there would not be much use in that, because most of them are only second best. The best remedy is coal-oil and soap-suds. These are not difficult things to get. Take soft water, one gallon, boil up in this $\frac{1}{2}$ lb. of soap until it is dissolved. When it has been boiling for a few minutes take it off the stove and pour it into a wash-tub, into which you have already put two gallons of coal-oil, that is twice as much coal-oil as you have soap suds. If you have not a garden syringe or spray pump,

it will pay you a thousand times over to buy one. Now churn the mixture by working it up with the syringe for five minutes. You then get a thick creamy mixture, which will be of a jelly like consistency when cold, which will keep for a long time. You need not use it all at once. You can make enough for ten years, and set aside until needed. When you want to use it, take as much of the emulsion as you desire and add to it first of all three times the quantity of hot water and it will dissolve, then add twice as much more water ; that is in all nine parts of water to one of emulsion. Three quarts is enough to treat properly a single animal. Using it in the way I have told you, it will cost you about one cent and one of the fractions you talk about for each animal. Call it even two cents. By using it you can destroy every fly or parasite on that animal and save money. If you are using it in the winter, or at any time, the best way to apply this emulsion to cattle is to use a spray pump. I might mention, too, that kerosene emulsion is a good sheep-dip. Most farmers use a large quantity of sheep-dip at $2 a gallon, and this quantity will make you fifty gallons of wash. Now this receipt that I have given you will do the work just as well and much cheaper. Use your Canadian coal-oil, the best in the world. You may sometimes forget to get the sheep-dip when you go to town, or you may not be able to get it. But you have always the material to make kerosene emulsion in the house, and besides the material is a great deal cheaper. For treating cattle, by means of a spray pump it can be applied in two minutes. I will tell you how a friend of mine does it and how he has banished the horn-fly from his herd. He stands at the door of a small enclosure as the cattle are driven in. He works the spray pump and throws the liquid all over one side of every animal as it passes. Then he has some one drive the cattle out again and thus he gets at the other side also. You can see there is very little trouble about that. Repeat this four or five times at periods of 4 or 5 days apart and you have the animal protected for a long time. Of course this is not the scientific way to treat the pest. The true plan is to destroy the insect and prevent its increase. To do this intelligently, we must know its life-history. The eggs are laid in the fresh droppings of the animals in the meadows where the cattle feed, and the maggots, when hatched, feed on the liquid portions of the manure. Common sense tells us that if we can prevent the development of these maggots we prevent the multiplication of the insect If you can dry up the manure the maggot cannot feed and must die. This can be accomplished in either of two ways. One is to spread on the manure lime or some other drying substance. The other is to arm a boy with some implement like a rake or hoe and let him go through the fields and spread out the patches of manure so that they will dry in the sun or be washed away by the rain. Rolling or brush-harrowing the pastures twice a week would have the same result.

Mr. Price : I would ask Professor Fletcher to give us a cure for bots.

Mr. Fletcher : The kerosene emulsion will effect a cure. The simplest way is to begin wherever you see them and squeeze them out one by one. In England cattle seem to suffer more than they do here. When they attain a certain size you can squeeze them out, but if you take the kerosene emulsion that would be better now at this time of year, because they are not large enough to be squeezed out. If you use the emulsion it will kill them and then they will suppurate out and the wound will heal.

A Voice : What about spraying?

Mr. Fletcher : Well, about spraying, I can give you this from experience : If you spray your apple trees with Paris green in water—one pound to 200 gallons of water—you can save about sixty-five per cent. of the apples. If you do not spray them you will lose apples through the ravages of the codling worm and the foliage from the attacks of the canker worm. The best time to spray is as soon as the flowers have dropped. While the flowers are there nature is secreting honey which attracts the bees, and, if you spray with poison, you run the risk of poisoning the bees. One of the most successful methods of getting a good crop is to keep bees in the orchard.

Now, let me turn to another subject. I have here three potato vines ; one of them was picked on the 8th of October. It had been sprayed with the Bordeaux mixture, which consists of sulphate of copper and lime. Here is another vine that was growing beside it and was perfectly dead more than a month before the first one. Where is the

difference between the two? Simply that the one was treated and the other was not. Anybody who knows anything about plants knows that they take their food through the leaves. All that is stored up in the tubers of a potato plant has come from the air through the leaves. If the leaves are destroyed through any cause by Colorado potato-beetles or potato-rot, we cannot get the starch we want into the tubers. At the Experimental Farm last season I treated potato-vines with eight different mixtures. The strongest of these was the standard Bordeaux mixture, six pounds of sulphate of copper and four pounds of lime in 22 gallons of water. These are dissolved separately. First the blue-stone is dissolved in water, then the lime, and the two are poured together. All these blue-stone mixtures are very destructive to fungi, and, if we mix lime with the sulphate of copper, there is little injury to the plant. This vine illustrates the effect. It was taken on the 8th of October, five weeks after every single leaf on every other untreated plant around it had been destroyed. The tubers had the benefit of the action of the leaves for more than a month longer, and a material increase of their size was, of course, the result. The leaves of the other plant were destroyed by the potato blight. The potato blight that destroys the leaves is the same as the rot which destroys the potatoes. The life-history of the parasitic plant causing the disease is this: It passes the winter inside the potato tuber as dry-rot, and then the next spring is sown with the potato. Some people will tell you to sow medium-sized potaotes whole. It is better, I think, to get larger tubers and cut them up and then you can see if there is any dry-rot in them. When the potato begins to grow the fungus grows also, and it grows up inside the stem. About the first week of August you begin to see the dark spots on the leaves and you may think there is a little rust but that it does not matter. But it does. When it shows on the leaves as rusty spots above there is an efflorescence beneath. This is where he pores or seed of the fungus are born; these are washed into the soil or carried away y the wind to other plants. Last season, after treating our potato plants, there was no rot amongst them; but there was also very little rot on untreated plots. There was so little that it does not make it advisable for me to publish the results of these experiments, because they might not indicate what might happen in other cases. The rust appeared on the leaves of some potatoes in a garden well watered with a hose and with very rich soil and destroyed them entirely. At the same time in the fields hot dry weather prevailed for a month; and the disease made no headway, and, as farmers said in that section: "There is no potato rot this year." But the general principle still remains. The fungus is the cause of the rot, it grows through the stem, shows itself as "rust" and then attacks the tubers. Wet weather favors the growth of the parasite, but dry weather dries it up and prevents the spread of the disease. In the garden I have mentioned the owner was proud of his potatoes, which certainly looked very fine. He watered them frequently with his garden hose. I told him he had better spray with this mixture or he might lose his potatoes. But he said they looked so fine he would do nothing with them. I had to be away for about ten days, in the end of August, and when I came back I looked at the garden and there was not a handful of leaves left. It takes about one hundred gallons to spray an acre properly. I suppose you can get the sulphate of copper for 4 or 5 cents a pound in quantities. It will take twelve pounds, so this would cost you 60c, or say, $1.00 for the whole, and, if you do nothing else, you give the potatoes six weeks longer the advantage of holding their leaves. But you do far more good than this.

Mr. COUGHLIN: Can this kerosene emulsion be used successfully for ticks in sheep?

Mr. FLETCHER: Yes. I mentioned that it had been successfully used for that purpose. It can be used advantageously against every insect. There is one important thing to remember, and that is no insect, however small, ever came by chance. It came from a male and female before it, just like every other animal and plant. The greatest man and the most learned man cannot produce life; he cannot make something from nothing. A learned man named Bastien has given his whole life trying to prove that he could produce something from nothing, and he has failed. These insects do not come by chance, and if a man clears his stock of them thoroughly he will be rid of their injuries. The best way is to be constantly on the watch and ready to apply the remedy as soon as the insects appear. These insects multiply very rapidly, and, as soon as they appear, their increase must be checked. The work must be done thoroughly, and it must be kept

up until a cure is effected. Keep the animals clear of these loathsome parasites and that will be a good deal better than treating them like ladies, as suggested by a previous speaker.

A MEMBER: What would you advise as the treatment of black knot?

Mr. FLETCHER: Black-knot is a fungous growth, just as potato rot is. About this time or a little later the spores are carried from one tree to another. They settle on the bark, and there begin to grow. They grow very slowly the first year, pushing their vegetative system through the pores into the bark and getting well established. The next season they proclaim themselves by distorting the twig and you recognize them, but by this time it may have gone too far, and the remedies you apply be of no use. You must promptly cut the black-knot out as soon as and whenever noticed, and if it increases too quickly you must cut the tree down. If you would spray your trees now thoroughly with the Bordeaux mixture I believe it would prevent the spores germinating. We have no black-knot at Ottawa. It is the only part of Canada that I know of where it has not appeared. I have been trying to find out what is the reason, but have not done so as yet. I find that it exists on the other side of the Ottawa River, and I hope to find out why we are not troubled. Three or four times it has come within a short distance of us, and directly I have seen it I have had it cut off. There is a way of treating it, by painting it with coal-oil or cutting it off and painting the place with coal-oil. The best way of all is to cut it out thoroughly.

Mr. LEITCH: Did you ever try to inoculate with black-knot a tree that had not previously been infected with it?

Mr. FLETCHER: I never did.

Mr. LEITCH: You say that black-knot is a fungous growth, and that the spores are carried through the air. If that was the case could you not inoculate a tree with it and so produce the disease?

Mr. FLETCHER: I have not the slightest doubt that that could be done if all the minutiæ of its life-history were understood.

Mr. LEITCH: I have several cherry trees at my door over which I keep close watch. Three years ago one of the trees was affected with black-knot. I found that instead of being in the bud it was in the bark.

Mr. FLETCHER: It is never in the bud.

Mr. LEITCH: Then there was a worm, not the cherry worm, about half an inch long. I am of the opinion that that worm is the cause of the black-knot. I have two trees, nearly every limb of which is affected, and another close by not a limb of which has been touched. As to the potato rot, I beg to differ from the Professor. We can produce diseased potatoes and sound potatoes in the same hill. There is a long field I know of, part in a hollow where it is wet and and part in sandy soil. The wet part of the strip produces rotten potatoes, and when you get into the sandy soil there are no rotten potatoes. That has been the case for forty years.

Mr. FLETCHER: You have made the observation that many thousands before you have made, that insects are found in the black-knot growth. I shall be glad to receive specimens of those insects, if you will send them. Probably what you have seen is some form of curculio. There are several different kinds of insects of which it is recorded that they are sometimes found in this fungus. But to prove that the insect was found in the fungus is not to prove that it was the cause of that disease. For where once you find an insect in a gall much more frequently you will find galls without insects. The life-history of this fungus has been pretty accurately learned. During the month of March or February these spores come out and are carried by the wind. If they settle upon plum trees the disease will spread. With regard to the potato rot, it seems natural for one who has not examined it closely to speak of it as our friend does. He says that the potatoes rot in low land. So they do. With moisture and warmth all fungi will increase. If you have warmth without moisture the conditions are unfavorable. This year I tried an experiment which I think will be conclusive if you will try it. There

is one plot in my garden that is low, a low rich loam particularly suited for potatoes, for the idea that potatoes require a light dry soil is wrong. Many people thought I had made a mistake; they said there was too much top on the potatoes; but it is the sort of top we want; the more top we have the more potatoes you are going to get. I could protect them against the rot by means of spraying. They were sprayed three times, beginning on the second of July, and there was not a rotten potato on that land. True, the season was favorable; but I believe that but for the protection I gave them every potato would have rotted, because on the same land in other years they have always rotted. It is only by growing these diseases that we find out what they are. There is a gelatinous substance in which these fungi can be propagated. A little of this is placed in a glass tube and closed up, and then a small part of the diseased tissue separated from the rest with a sterilized knife is put in the tube. It is put in a warm, damp atmosphere and then in a few days the little plants begin to grow, and we are able to watch the growth and learn the nature of the species. And so when we find a diseased tissue with a certain fungus we know what has caused the trouble. I have never propagated black-knot upon a tree, but I believe it could be done. There can be no doubt that it is a fungous disease produced from the spores in the manner I have explained.

## CARE OF MILK.

Mr. C. C. Macdonald, Superintendent of Experimental Dairying, Ottawa, read the following paper:

The care of milk is such a broad subject that I will not take up the time of this Convention with anything but the most important details pertaining thereto.

Attempts have been made in the past few years by some of the farmers of Canada, to furnish better milk to the cheese and butter factories than was done even ten years ago, and the result of those attempts is noted by the increased make and sale of Canadian cheese and the higher rank it takes in foreign markets.

The more we educate the farmers and induce them to perform their part of the dairy work thoroughly, the better cheese and greater quantity we may expect to make, and consequently bring more wealth to the country.

Milk at its best is a very perishable compound and very susceptible to any contamination foreign to itself, and therefore should be protected at all times from anything that would injure its quality in any way. A farmer's wife should not put flour near the kerosene can or anything else that would contaminate it and render it unfit to make good bread, neither should the farmer expose the milk from his dairy to any foul odors, such as those of the pig-sty, the barnyard, or the cow or horse stable, or those arising from dead carcasses; or to the certainty of contamination by conveying whey from the cheese factory in the milk cans; all these going to render the cheese or butter-makers' raw material—milk—unfit to manufacture the proper article of food for the masses to consume

In my travels last year I visited one cheese factory which sold the last two months' make for $\frac{1}{8}$ of a cent per lb. more than any other factory in that neighborhood. I learned afterwards that the patrons of that factory did not carry whey home in their milk cans, while the patrons of all the other cheese factories round about, almost without an exception, did. This means that the patrons of this one factory received more money for the whey, by the increased price for their cheese, than they could possibly make out of it by feeding it at home.

There is another matter to be considered here and that is the increased make of cheese from untainted milk compared with that which has been tainted by sour whey or other impurities already mentioned. It has been proved that one-eighth more cheese can be made from pure wholesome milk than from tainted milk; therefore carelessness with regard to the milk results in a loss, not only to the individual himself, but to the other patrons of the factory as well.

Now the first and most important matter to be considered in the care of milk is absolute cleanliness from beginning to end. Cleanliness in the stable and milking yard, in

milking, with the milk pails, with the strainers, with the milk cans and with the waggon in which the milk is conveyed to the factory.

One man of whom I know came to to a factory with milk drawn in a cart which had had been used only an hour before carting manure to the field. This I took as a wilful mistake and scolded the man for so doing, but he did not seem to feel that he had done anything wrong.

Everything that is used for handling milk should be scrupulously clean. This point cannot be too carefully noted or too frequently repeated. The best method for cleaning milk utensils is to rinse the articles in use with cold water first as cold water removes all stickiness of the milk from the sides of the vessels. Afterwards use water as hot as the hands can bear, and wash thoroughly using a little "Pearline" in the water. Look well to the seams of the milk cans and pails and any crevices where filth is apt to collect. The little places sometimes left by the tinsmith in finishing his work are very dangerous, as they are apt to be passed over by the dairymaid and tiny particles of milk gathering there from day to day begin to decay, and raise havoc with the whole can of milk. In these small places the germs of decomposition are created and the result is tainted milk.

After the articles have been thoroughly washed, boiling water only should be used for scalding as a finishing touch to the cleansing. The vessels should then be placed in the open air, that they may become thoroughly aired before the next milking time.

Supposing the time for milking has arrived, the milkers should go to the milking place with clean hands, and should be equipped with some clean warm water and a clean flannel cloth to wash and brush the cows' udders before beginning to milk. This should be the invariable practice of every dairyman at all times in the year. It is one very important part in the care of milk.

When the milk is first drawn (not half an hour afterwards as some dairymen I know of persist in doing) it should be strained through a clean strainer. A cloth strainer is far superior to any other for several reasons:

1st. It can be cleaned much easier.
2nd. Can be easily exchanged when worn out.
3rd. It will arrest the very smallest particles and prevent them going into the milk.
4th. It is cheaper than any other.

There is no reasonable excuse for a patron sending milk to a factory unstrained, as the cloth sufficient to last a whole year would not cost more than twenty cents.

Immediately after the milk is strained it should be thoroughly aerated by means of dipping, stirring, or pouring, to expose it to the pure air.

The most efficient method of airing milk is to procure a good aerator, which costs a paltry sum of money and will pay for itself twice over in one season. The aerator is placed on top of the can with a cloth strainer inside of the receiving bowl and it is ready to do its work. Thus the milk is both strained and aerated at once, saving time.

Milk treated in this way does not require putting down in cold water, except in extremely hot close nights. The surrounding atmosphere should always be pure, and milk should not be cooled down below the temperature of the atmosphere, but should be just two or three degrees above in order to keep up a slight evaporation. On the other hand, if the milk is colder than the atmosphere it will absorb any impurities from it that may be afloat.

The night and morning's milk should be treated always the same—viz., thoroughly strained and aerated before being carted to the factory.

The cream should not be removed or any part of it, nor the strippings kept back. This reminds me of an incident that occurred at a certain factory in which it fell to my lot to hold a meeting. The cheese-maker had instructed his patrons not to strain their milk, and when I asked him why he had done such an outrageous thing he said that if the milk was dirty the patrons would not be so apt to take any cream off. I assured him that he heeded to issue better laws than that, and see that they were enforced. That man was making the poorest lot of cheese I found while making that tour.

The cheese-makers do not desire green, unmatured milk as is generally supposed by the average farmer; rather, he desires his raw material matured, for if it is not so he has

the trouble of maturing the whole bulk of milk received, a work which is better to be done by the farmer himself.

In summer the milk is generally in a proper stage of maturity. It is in the autumn, when the cold nights come on, that the patron should look more carefully to the condition of the milk. After proper straining and aerating the can of milk should be taken to the kitchen, where the temperature should be about 70°. If milk is thus treated it will be in proper condition when it arrives at the factory, consequently the cheese-maker is enabled to perform his work better and exercise his skill more thoroughly.

Milk should never be allowed to become frosted or chilled, hence the reason for conveying it to a moderately warm place in cold weather. Frosted milk has a bitter flavor and will impart it to cheese or butter, so it is most important that farmers furnishing milk to a factory should study milk—what it is, what it is to be converted into, and the best ways to care for it, and give every assistance in his power to make the finest article possible. It should be the aim of patrons one and all to furnish pure, sweet, wholesome milk to the factories. As the farmers are the first who have to deal with the raw material, a great deal depends on their treatment of it as to what the quality of the manufactured article is to be. The farmer's aim with regard to the factory should be to make it the best not only in the county but the best in the Dominion by a hearty co-operation with the cheese or butter-maker. They two should study one another's interests, and together strive to establish a prominent name for the factory they are connected with.

I have hitherto spoken only of milk as taken from the cow and conveyed to the factory, but it may not come amiss to say a few words concerning the modes by which farmers may ensure the purity of milk as yielded by the cow. If the milk yielded by the cow is impure no subsequent amount of care can make it pure. Very often if tainted milk be traced to its source it will be found in something affecting the animal. Foul odors breathed by the cow will affect the milk; so will poor food and bad water—the last more especially. More than one farmer puzzled by tainted milk after taking every possible care of milk vessels, etc., has found the source of the impurity in the water drunk by the cow. Hence the importance of supplying only the purest of water for the cow to drink. She uses the water she drinks as a conveyance to carry the food she eats to the different parts of her body, and if the water is tainted the milk cannot fail to be so. Now who would dare to dream for one moment that pure, wholesome cheese or butter could be made from milk obtained under such conditions!

Let the food given be pure, wholesome and succulent, and the water pure and plentiful, and give the same care a good father gives his children and every farmer is assured of success in the dairy business.

## MILK TESTING: DIFFERENT METHODS USED AND THEIR VALUE.

The following paper was presented by Prof. H. H. Dean, Ontario Agricultural College:

From early times to the present there have always been philosophers (wise men) who were not content with seeing things as they are without asking any questions, but they inquired why this was so and why that was so and what are the reasons that we always find some things one way and some another. Well, one class of such men were called alchemists, and as a result of their labors we have what is now called the science of chemistry. These early philosophers sought for three things:

(1) The transmutation (change) of metals. Gold and silver they called the royal metals, and they thought that all the baser (common) metals could be changed into the royal.

(2) For the elixir vitæ (elixir of life). They sought for a medicine that, for every one who would take it, would give to them unending life. As a result of their labors we have the science of medicine.

(3) For a universal solvent—something that would dissolve everything. All the acids we use to dissolve substances in the laboratory are a result of these investigations.

### Scientific Investigation of Milk.

Now, while these things were engaging their attention largely some of them began to study milk. They began to ask, What is milk? How is it made? And strange to say some of the conclusions which these ancient scientists came to are much the same as are held to-day, after all the search and enlightenment of years. The ancients were acquainted with but three constituents in milk—butter, with which they used to anoint their infants; casein or curd, which they precipitated or curdled with vinegar; and the whey, or what remained after removing the curd and butter. This was all that was known regarding the composition of milk up to the sixteenth century. The first mention of a fourth constituent of milk is found in a work by Bartoletus, published in 1619. He called it (milk sugar) the "manna" of milk. At this time mercury—seen in thermometers, sulphur, and a salty principle were considered as the three active essences in all things; hence, the yellow color of the butter they thought was due to sulphur, the whey to quicksilver, and the curd to a salt element.

Early in the eighteenth century a scientist (Leeuwenhoek) examined milk with a microscope and found that it was a fluid containing a great many small particles, which have since been proven to be the fat globules or butter held in suspension in the milk. During this period flourished the school of Boerhaave, who laid the foundations of animal chemistry. He saw that milk was a perfect food, and to him it was a fluid containing, wrapt up in mystery, all the elements of the body. The first quantitative analysis (analysis to determine the quantity or amount of each substance) of milk appears to have been made by Geoffroy, whose results were published in 1737.

About the middle of the eighteenth century sugar of milk was an article of commerce, but there was great difficulty in preparing it white and pure. In a tract published in 1756 there occurs the following regarding milk sugar: "There is in Switzerland a chemist named Creuzius, who has composed the salt admirably, but unfortunately he will not impart his secret to any one. This is the more vexatious because the salt he is proprietor of is infinitely finer than the others; it is whiter, sweeter, and dissolves better on the tongue."

One of the last important discoveries regarding milk previous to the nineteenth century was that of the characteristic acid of milk (lactic) by Scheele, one of the discoverers of oxygen. Thus for eighteen centuries have some of the most noted scientists of the world devoted considerable of their time to the study of milk, and found out but a few of the many things which we now know concerning it, but they laid the foundations for the men of the present century, who have built fast and well until now we have a building that would astonish the ancients could they see it; yet hundreds of the best men are still working away, trying to build new additions and sometimes tearing down the old.

### Dr. Gerber's Fermentation Test for Tainted Milk.

The requisites for this test are a receptacle which may be kept at an even temperature of 104 to 106 degrees, containing a rack into which may be placed glass tubes about five inches long and one inch in diameter, with a cover for each. To make the test the glasses should be thoroughly cleansed and boiled. Put samples of the suspected milks into tubes, being careful to keep a record of each one. Keep at an even temperature and make observations at the end of six hours or sooner and again every two or three hours. As a result of over 1,500 tests made by Gerber he concludes:

1. The good and well treated milk should not coagulate in less than twelve hours, nor show anything abnormal.

2. If it does coagulate it shows the milk to be abnormal, either on account of its chemical composition, or because it is impregnated with too much ferment.

3. Milk from sick cows, cows that are strongly in heat, or cows with diseased udders will always coagulate in less than twelve hours.

4. Only about 20 per cent. of the tests coagulate within twelve hours.

### Some Reasons for Testing Milk.

The question naturally arises as to the reason for so much time and money being spent inventing methods for testing, and in the testing of milk by these different methods. Three reasons may be given.

1. Milk is a valuable (perhaps the most valuable) food product.
2. It varies in quality naturally.
3. Some persons try to make it vary more than it does.

### Physical Tests.

A cheese or butter-maker should be possessed of a good smeller, a good taster, and an eye for cleanliness and good general appearance. The causes of imperfect or tainted milk are :

1. Impure air in or near stable, pasture field, milking place, or where milk is standing.
2. Bad food, such as foul smelling weeds in hay or pasture, turnip tops, rape, and sour food.
3. Foul water.
4. Ill health, such as tuberculosis.
5. Uncleanliness in milking and caring for the milk.
6. Keeping milk too long without proper care.
7. Lack of proper carriage.
8. Cows in heat.

### Rennet Tests.

All makers are familiar with various rennet tests to determine the ripeness of milk. The "cup test" lacks accuracy. The test used by some is 8 ounces of milk to which is added 6 drachms of rennet extract of known strength, and when it coagulates in from 22 to 24 seconds it is considered ripe enough to add the rennet.

"In Wisconsin, they use 20 ounces of milk at 86 degrees F. in a dipper, with one drachm of rennet extract and call good milk ripe if coagulation commences in 60 seconds. If the milk is tainted, they ripen it down to 30 seconds."

What is known as the "Monrad rennet tests," claims to be more accurate than any of these given :

"Take a 5 c.c. pipette of rennet extract and fill into a 50 c c. measuring bottle which has previously been two-thirds filled with water. Rinse the pipette by filling it and emptying it two or three times from the mixture and then fill water in the measuring bottle to the mark on the neck (with the pipette). Shake the bottle well and then use 5 c.c. of this diluted rennet extract to 160 c.c. milk. To keep an even temperature, I have used a tin cup loaded under the bottom with solder, so as to float it in the milk vat. This test is calculated to take 120 seconds for commencing coagulation, as against 60 in the other, and thus is another element of certainty introduced. I prefer a suitable knife or spattel to stir the rennet in with (which should be done quickly and not last more than five or six seconds), as well as wherewith to observe the workings of the milk. I claim this insures five times as exact a test at the expense of two minutes' extra work. The diluted rennet should not be used after it has been standing for more than fifteen minutes ; a new one should be prepared. Any one can get up this test. At present it may be purchased, complete, for $1.50." J. H. Monrad.

## Acid Tests.

A test for determining the degree of acidity in milk and cream is badly needed. Litmus paper (red to blue) is not accurate enough Other tests which depend upon a change of color when the acid is neutralized by an alkali, I have not found satisfactory as yet.

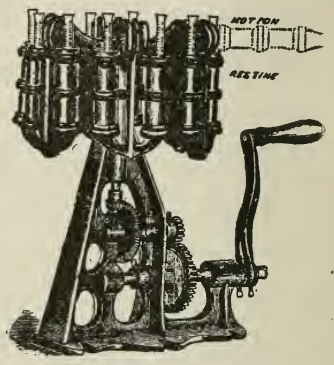
I shall only mention the cherry test churn which has been superseded by the oil test churn, and the latter is likely to be supplanted by the Babcock or some similar test.

## * The Beimling Test (or Leffmann-Beam).

Preceding the Beimling and Babcock tests there were a number of short tests in use, among which we may mention Short's, Parsons', Failyer & Willard's, and Patrick's. These were hailed with delight by dairymen, but it was found that they were too technical for the ordinary persons to handle, and they also required too much time to make tests.

The Babcock and Beimling tests both came out about the same time—the former from the Wisconsin Experiment Station and the latter from the Vermont Station. Neither can claim to be the absolute inventors of either test. They are the result of many years' work, perfected by the men whose names appear with the test.

The test bottles of the Beimling are smaller than those of the Babcock; less milk (15 c.c.) is used for a test; two chemicals (amyl chloride and sulphuric acid) are required; less time is spent in whirling the bottle; the graduated neck does not represent the per cent. of fat, but *degrees;* the per cent. of fat being obtained by reference to a "ready reckoner." Having used both these tests for some time, I have no hesitation in saying that I prefer the Babcock test.




BEIMLING MACHINE.

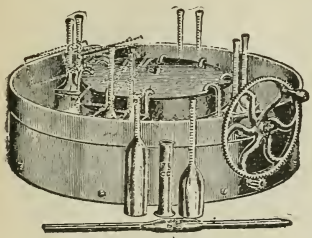
## Babcock Test.

Perhaps no one thing has caused so much comment in the dairy world as this test. More has been written and said about this test than would be contained in a good-sized volume. The essentials of the test are:

(1) A correct sample. (2) Accurate measuring of the milk (17.6 c.c.) in the glass measure or pipette. (3) Test bottles of proper size and properly graduated. (4) Commercial sulphuric acid of proper strength—specific gravity of 1.82. (5) The right amount of acid—17.5 c.c., if of proper strength. (6) Thorough mixing of the acid and milk. (7) A centrifugal machine of power sufficient to force the fat on top of the liquid after three or four minutes' whirling. (8) Careful additions of hot water at 140° to 160°, so as to cause the fat to rise into the graduated neck of the bottle. (9) A second whirling of one or two minutes. (10) Careful reading of the per cent. of fat. (11) Emptying and rinsing of bottles immediately with hot water, when they are ready for use again. (The bottles must be kept clean.) (12) Carefulness in every step of the work.

* Drs. Leffmann and Beam claim to be the inventors of this test, and say Mr. Beimling simply introduced it.

The time required to make the tests depends upon the skill of the operator, the size of the machine, and the handiness of apparatus. With a twenty-bottle machine and everything handy, a person may expect to make about twenty tests an hour. For the addition of the acid to the milk we use a glass syphon in a gallon bottle of the acid, which is kept nearly full all the time. This syphon has a glass stop-cock and works very satisfactorily. The acid may be run out into the acid measure, and that added to the milk or the acid may be measured into the bottles by the eye after some practice.



BABCOCK TESTER.

I would recommend this test to the use of every cheese and butter-maker, whether you pay according to test or not, because by it you will be able to test the milk of each patron or the cows for your patrons, and thus know what each is doing. You will also have a check on your work, as it can be used for testing skim milk, butter-milk, butter, whey, and cheese. Where no tests are made, a maker is simply "going it blind" without any idea as to what losses he may be having, either from dishonest patrons or careless work.

There is another important reason why this test should come more largely into general use. It is this: there is a wide difference in the quality of milk from individuals of the same herd and in different herds. By weighing and testing, the poor and unprofitable cows can be detected and weeded out.

## Instruments used in Testing.

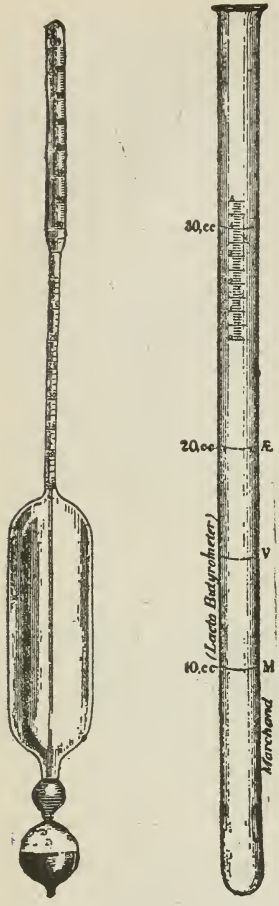
*Thermometer.*—The most important one of all is the thermometer. No dairyman can afford to be without one. There are three scales used in thermometers—the one most commonly in use being the Fahrenheit, though the Centigrade is much simpler. It has its freezing point at zero (o), and the boiling part at 100 degress. Owing to the fact that there so many cheap thermometers put on the market, a great many are inaccurate. They vary as much as 10 degrees. Every cheese and butter-maker ought to have a standard thermometer (cost $2 to $5), not to use every day, but one by which all the common ones could be regulated. A good plan to adopt when buying a cheap thermometer is to get a dozen and compare them. Then select one from those in which the greatest number correspond most closely. For working in milk, cheese, butter, and cream, a glass one is preferable to one with a metal back.

The following extract from a letter dated December 12th, received from a prominent cheese-maker will show the importance of having a correct dairy thermometer.

"We have got through our season's work and with some little dissatisfaction on account of a thermometer we had used for some time. We started out splendily, but not long before our cheese became porous and mechanical in texture, it seemed as though the more we tried to get them down the worse they became. After some considerable time we had brought to our notice the fact that our thermometer was only 10° F. astray, and we had been heating to 110° instead of to 98° or 100° as was calculated. This gave the cheese a rubbery texture and apparently developed a peculiar kind of gas that seemed so difficult to get rid of, or otherwise the pin-holes were so well formed in a stiff rubbery curd, that after some time they resumed their former appearance and size.

"When we got this thermometer we examined it and there was only a degree or two difference in it and the one we had been using. It was a floating dairy thermometer and the graduating paper had slipped when in use and consequently it was the last place we thought of looking for error. We noticed the curd was working strangely but looked in any and every other direction for our fiend than just where he lay. When we found out our trouble we soon got settled down to fine work and had no further trouble. It taught me many valuable lessons about "mechanical holes," meaty cheese and the effect of temperature which had never been so plain previously.

"We tested as I told you to the end of the season and it showed quite plain enough that we ought to pay by a different system."




LACTOMETER AND THERMOMETER COMBINED. LACT-BUTYROMETER.

*Lactometer.* In point of familiarity there is, perhaps, no instrument so much known as the lactometer. The lactometer has been the subject of many bitter attacks, but when we look into its province we find that "all that is claimed for this instrument is this: that with a certain degree of accuracy it can detect milk adulterated with water alone, and also indicates the removal of cream." Another authority says: "All that is claimed for the lactometer is that it is a proper instrument with which to test the specific gravity of milk.

The chief objections made to its use are: "The lactometer indicating the specific gravity of the milk, and it being well known that the specific gravity of cream is much less than that of milk, the richer the milk is in cream the greater the danger of its being condemned; also the specific gravity of skim milk being much greater than that of pure milk, a milk can be first skimmed and then watered so that the lactometer will indicate a milk of good average quality."

In answer to the first of these objections, it may be stated "that when a milk is rich in fat, it is also rich in solids not fat."

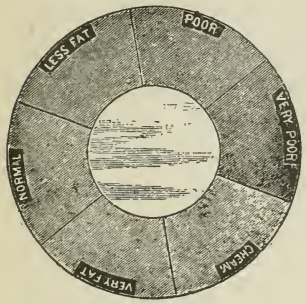
In answer to the second objection, it may be said: "When the instrument is taken from the milk, the manner in which the milk runs off will furnish valuable information, especially if the bulb be of black glass. A poor milk will, when in a thin film, have a bluish appearance, while a rich milk will have a sufficient consistency to make the black glass bulb momentarily white. With ordinary care and observation, and a little experience, there will be no danger of confounding rich milk and watered skim milk." (Sixth report of New York Dairy Commissioner).

The lactometer consists of a glass cylinder loaded at one end with either shot or mercury, the latter being used in the latest and probably the best lactometer or lacto-thermometer, viz., Quevenne's. This form of lactometer, in the hands of an expert, is capable of approximately showing the per cent. of "solids, not fat," and also the per cent. of water added to a sample.

*Lacto-butyrometer.*—This instrument has been used by some in the province for testing milk. It consists of a tube closed at one end and graduated at the upper end. A mixture of alcohol, ether, and ammonia (20 c.c.), and 10 c.c. of milk, are put in the tube and well shaken, after which it is stood in a water-bath at a temperature of 43° to 44° C. The fat forms in a clear oily layer at the top of the mixture. It is not generally used.

*Creamometer.* The creamometer or cream gauge is a simple instrument. While the cream gauge may help to form an idea as to the quality of the milk so tested, yet it cannot be taken as an infallible guide for the following reasons: (1) The depth of cream or a "gauge" is not a certain indication of the amount of butter-fat contained in a given quantity or depth of cream. For example, if milk be set in a creamer or deep can, and

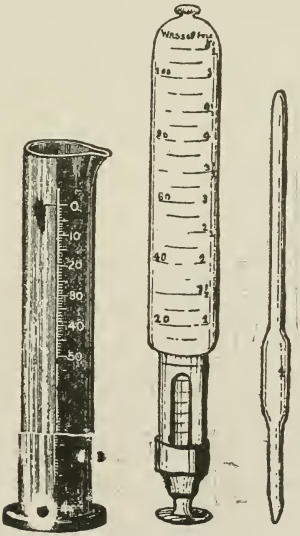
the cream be measured at the end of twelve hours and again at the end of twenty-four hours, there will be less inches of cream in the second case than in the first, but it will not necessarily make less butter. (2) Some cows' milk will not cream readily. This is particularly so when they have been milking for some time, say six or eight months. (For some interesting work in this connection, see College Report for 1891.)




PIOSCOPE.

*Pioscope.* Perhaps the simplest instrument used for the testing of milk is what is known as the pioscope. This instrument consists of two portions, the lower being a circular, convex piece of ebony about two inches in diameter, and one-quarter of an inch thick in its thickest part. This piece has a ring in the centre with a collar, in which a few drops of milk is placed, and then the upper portion is pressed on the milk. This upper part consists of a glass plate, about the same diameter as the under part; the centre of which is transparent, while the outside circle consists of six different colors—all of a bluish shade—and the milk thus pressed will assume different shades, corresponding with the colors on the glass. The quality is indicated by a scale which reads—cream, very fat, normal, less fat, poor, very poor. This instrument helps to guess at the quality of milk. It costs but fifty cents.

*Lactoscope.* This consists of two parts, the lower being a white piece of porcelain having six black lines on it. The upper part is a hollow glass cylinder, with a scale showing the amount of water added and the per cent. of fat. Four cubic centimeters of milk are first placed in the tube and then water carefully added and shaken with the



CREAMOMETER. LACTOSCOPE. LACTOCRITE.

milk until the black lines can be discerned. The height of the water and milk shows the per cent of fat. This test is not reliable, because the opacity of milk does not depend altogether upon the fat present.

*Lactocrite.* This instrument can be used only in connection with the Laval separators. It gives reliable results, being a partially chemical operation.

### Making the Tests at the Factory.

Owing to lack of time and the extra cost of acid, it is not practicable to make tests every day. What is known as the composite test plan, slightly modified, proposed first by Prof. Patrick, of Iowa Station, is possibly the most practicable of any method yet in use, unless the division of the amount of milk required for a test into 3 or 6 parts will prove better. So far as the accuracy of the composite test as compared with that of tests made every day is concerned, we may conclude that it is reliable so long as the same quantity of milk is taken each day for a sample, and so long as the quantity and quality of the milk delivered by the patron from day to day during the time the composite is being gathered does not vary a great deal.

Where both quantity and quality vary from day to day during the week, then the composite test is not absolutely accurate.

To obtain accurate results under such circumstances I would suggest the following plan:

### Directions for Using the Graduated Measure in Taking Composite Samples of Milk.

For patrons sending less than 50 pounds of milk take out 2 c. c. (medium marks) for every 10 pounds of milk.

20 pounds, take out 4 c. c., or 4 medium marks.
30 " " 6 c. c., or 6 "
40 " " 8 c. c., or 8 "

50 pounds and over, up to 500 pounds, take one c. c. (medium mark) for every 10 pounds of milk.

50 pounds, take out 5 c. c., or 5 medium marks.
60 " 6 c. c., or 6 "
70 " 7 c. c., or 7 "
100 " 10 c. c., or 10 "
125 " 13 c. c., or 13 "
130 " 13 c. c., or 13 "
200 " 20 c. c., or 20 "
400 " 40 c. c., or 40 "
490 " 49 c. c., or 49 "

500 pounds and over, take one-half a c. c. (short mark) for every 10 pounds milk, or 1 c. c. (short mark) for every 20 pounds of milk.

500 pounds, take out 25 c. c., or 25 medium marks.
510 " 25½ c. c., or 25 " and one short mark.
520 " 26 c. c., or 26 "

In case a patron who usually sends less than 50 pounds should deliver 50 pounds or more on one or more mornings during the week, take 2 c. c. for each 10 pounds of milk.

In case a patron who usually sends more than 50 pounds should deliver less than 50 pounds, take 1 c. c. for each 10 pounds of milk.

In case a patron who usually sends less than 500 pounds should deliver 500 pounds or more, take 1 c. c. for each 10 pounds of milk.

In case a patron who usually sends more than 500 pounds should deliver less than 500 pounds, take ½ c. c. for each 10 pounds, or 1 c. c. for each 20 pounds of milk.

## A COMPLIMENT TO EX-SECRETARY CHADWICK.

Hon. Mr. BALLANTYNE moved the following resolution :

"That the members of the Western Dairymen's Association desire on the occasion of the retirement from the more active and arduous duties of the office of Secretary of C. E. Chadwick, Esq., to express our high appreciation of his long and eminent services to the Association and to the dairy industry of Canada.

As one of the fathers of modern dairying he has won the respect and gratitude of everyone connected with this the greatest national industry of our Dominion.

Since the formation of this Association it has had the benefit of his great ability, energy and practical wisdom. To his efforts are due to a very large extent the success, the maintenance and the ever increasing usefulness of this organisation of Ontario Dairymen.

On the present occasion we desire to thank him for his great public services, and to express the hope that although he has retired from the more active duties of his office, he will for many years be spared to fill the high and honored position of Honorary Secretary of this Western Dairymen's Association.'

He said : It is now almost twenty-five years since the first meeting of the Canadian Dairymen's Association was held. It was not then the Ontario Association, much less the Western ; it was the Canadian Dairymen's Association. Business arrangements had not been completed by which we had a ready market every day and hour at the full value of the goods as we have now, and we thought we might assist ourselves in securing a market by holding a convention. I happened to attend that convention, and I have been connected with the organization ever since. Our first president was Mr. Chadwick, and no person was more valuable at that time than he. His public spirit and his good social position greatly assisted us in entertaining guests from the neighboring republic, and few at this day can realize how much we were indebted to him in the early stages of this movement. I have great pleasure in moving this resolution.

The PRESIDENT : I am sure I can endorse the words of Mr. Ballantyne in reference to our retiring Secretary. It is with feelings of very deep regret that we part with Mr. Chadwick as our active Secretary, because, ever since my connection with this Association he has been devoted to the advancement of the interests of the Association and of the dairying industry. He has always performed with zeal and ability the duties entrusted to him by the Association, and now that the time has come when he finds it necessary to retire from the active duties of the position he has so long occupied, I do not doubt that this expression of our appreciation will commend itself to all. I have much pleasure in seconding the resolution.

Mr. CLARKE : As one of the few present who took part in forming the original Association, I think it would be unbecoming of me were I to allow this occasion to pass without a word. I simply desire to say that I heartily approve the resolution and that I endorse everything that has been said with regard to Mr. Chadwick's services to the Association.

The resolution was put and unanimously carried.

Mr. CHADWICK : I am very much gratified indeed at the kind sentiments expressed in the resolution with reference to the services I have rendered in the capacity I have so long held in relation to this Association. As one of the originators of the movement and an earnest worker in the cause, it is a source of the deepest satisfaction to me to find that our efforts have resulted in so much good. I have spent a great deal of time and such ability as I possess in aiding the development of this great dairy industry. Of course, like all innovations, it met with some prejudice in its initial stages, but year by year we advanced, making steady and substantial progress. The year before the organization we imported $300,000 worth of cheese from our neighbors to the south. The present magnitude of the business you have heard discussed at this meeting. This is the result of united and intelligent action upon our part, together with a determination to maintain the excellent quality of our goods. I do not wish to laud myself, but having labored faithfully and diligently for twenty-six years, and believing the old adage, that "he is a benefactor of his country who makes two blades of grass grow where one grew before," it is with great satisfaction that I contemplate the results achieved by an Association in whose affairs I have taken an active part. I am proud of these conventions. We meet here as intelligent a class of people as are to be found in any country

in the world. I came to this country in 1820. My father took us back to England and returned to Canada with us six or seven years afterwards, and I have been a resident of Canada ever since. During that period I have seen vast changes in our country. No man need be ashamed to say that he is a Canadian. We have made great advances and we enjoy social and political privileges second to none in the world. I am retiring from the active duties in connection with this Association. I have lived to see the Willards, the Arnolds, the Harrisons and others who have been instrumental in promoting this great interest pass away, and I know that I must soon follow them. I have worked always with the hope that this country I love and the world should not be the worse for my having lived. I thank you again most cordially for the kind expressions tendered me, and I trust that the Association and all its interests may go on in increasing prosperity from year to year.

The meeting then adjourned.

## THIRD DAY—AFTERNOON SESSION.

On reassembling in the afternoon the Association was honored by a visit from His Excellency Lord Stanley of Preston, the Governor-General.

The hall was elaborately decorated with Union Jacks and bunting. It was filled when Lord Stanley entered, and the audience cheered him as he walked to the platform accompanied by his A. D. C., Hon. M. Walsh, and Col. Smith.

President Geary stepped forward and read the following address :

### ADDRESS TO THE GOVERNOR-GENERAL.

*To His Excellency Lord Stanley, Governor-General of the Dominion of Canada :*

SIR.—We, on behalf of the Dairymen's Association of Western Ontario, extend to you a hearty welcome to this, our 25th Annual Convention. We congratulate ourselves on the honor of a visit from your Excellency, and we recall the fact that the ancient family from which you are descended, while eminent through its representatives in the councils of the nation, and on the field of battle, has also been identified with the farming industry, and that you yourself while taking an active part in the affairs of state, are a practical farmer, and not only in the old land, but also during your tenure of office here, have always shown a practical interest in the agricultural industries of our country. We greet your visit on this occasion to our Convention as a proof of your particular interest in the great dairy industry which this Association represents and which from very small beginnings has grown into one of very great importance.

In 1866 our export of cheese was valued at $123,494, and in 1891 it had grown to $9,508,800, and it is estimated that our total export of cheese for 1892 will be upwards of $11,000,000. The first cheese factory was built in Canada in 1863, and since that time the system of manufacturing cheese on the co-operative plan has so grown and developed that to-day we have in operation 1,000 cheese factories using the milk of over 1,000,000 cows.

These statistics suggest the capabilities of this country to supply with food products the wants of the United Kingdom, and to bind together more closely through the bonds of commerce our fair Dominion with the motherland.

JOHN GEARY, President.
C. E. CHADWICK, Honorary Secretary.
J. W. WHEATON, Secretary.

The GOVERNOR-GENERAL responding said : Mr. President, ladies and gentlemen, I am glad of the opportunity to be present this afternoon. As you are perhaps aware, I was only acquainted two days ago with the fact that the Convention was being held here at a time when I was likely to be able to attend it. You were kind enough to extend an invitation to me, which I, of course, very gladly accepted. But you can easily understand that under the circumstances in which we have been placed for the last few days, travelling about from one place to another (and receiving everywhere most abundant marks of kindness) I have had no leisure to put together, or even to think over, any such remarks as I would wish to address to such a Convention as this. But I brought with me from the car a few figures which I got out a month ago, some of which will be applicable here. But I find the Dairymen's Convention pretty wide awake because they have already anticipated some of the figures which I was going to quote to you. I made a comparison of last year

with the year 1888, which fully bears out what was said in the figures cited in your address. The export of cheese in 1888 amounted to 90,698,000 lb, and in 1892, four years afterwards, it had risen to no less than 128,000,000, lb. The value had correspondingly risen from $9,500,000, in round numbers to $12,500,000. That shows what a great industry this is, and it shows also satisfactory progress. I am glad to see that such opportunities as the present are afforded for dairymen to meet, compare notes and talk over matters of common interest. I have been delighted to see the advantage taken of the excellent Experimental Farm at Ottawa as well as the Provincial establishment. I believe that these farms are doing a great deal of good work. They are able to try for you at public expense and for the public benefit experiments at a cost far less than if they were made by any private individual. I may say that I feel that in a certain sense I am rather a traitor to my own country and my own class, because what we are crying out about in England is the low prices of farm products caused by the competition a great portion of which comes from the Dominion of Canada. I dare say we shall try to wrestle with that and do the best we can and all we ask is a fair field and no favor. We are glad at least that competition comes from those who are so closely allied to us, and who show that in this new land they can put in practice the lessons they have learned at home. Will you allow me to direct your attention to one point and that is, speaking from memory, that the butter exports are so exceedingly small in comparison with the exports of cheese. That arises in great measure from want of care in making, and also, so far as I can ascertain, perhaps from a little want of appreciation of the value of the market, and the requirements of the market. You have to consider what the market requires, how you can best suit it, as to the quality of the article and as to the manner in which it is placed before the purchaser. I do not speak as an expert, but I understand that what is complained of is that the butter is of unequal sample. That is a fatal thing for any wholesale trade. I believe that in Normandy, whence large quantities of butter are exported, and, to a less degree, perhaps, in Denmark, there are large establishments that make it their business to collect from different manufacturers, or even from private persons their butter products, and then make up an article for the wholesale trade with the care and attention which such a trade requires. I do not know how far the facts may have altered since I came from home, but I think that was so when I left, and whether it is so or not it is a subject worthy of the attention of the Dairymen's Convention in view of the importance of the market. There is another topic upon which I may touch upon for a moment—the topic of winter dairying. I believe there is a great future for that industry, especially in this Province. I believe that many people have not thought it worth while to go into this branch, believing that it required too much care and attention. But I believe that any care and attention, and even expense in moderate degree, will be amply recompensed by keeping the work of your dairies constantly going. I do not believe that it is such a difficult matter in this climate as people supposed. And certainly it would be of enormous advantage to the Province if you were able to carry on winter daiying in the manner in which it is carried on in other countries similarly situated. I am sorry I shall not be able to spend longer time at this meeting. I wish you every success. I am glad to have had the opportunity to pay this visit, and I would like to have remained here during the whole session. I hope the few words I have ventured to speak will be received in the same spirit in which they are spoken, in a spirit of hope, that encouragement may be given to learn all the best means to advance the prosperity of the dairy interests, and that you will be able, as practical men, to make the best of every improvement that presents itself. I wish all success to the Dairymen's Convention.

Mr. Casswell presented His Excellency with the honorary members' badge of the Association, His Excellency remarking: "I am proud of this honor, and I shall be glad to keep this badge as a memento of this occasion."

His Excellency then withdrew.

## MR. CASSWELL AND THE SWINE INDUSTRY.

Mr. PATTULLO: This Convention has been a most successful, interesting and valuable one, and before it closes I desire to move a resolution which I am sure you will receive cordially:

Moved by Mr. A. Pattullo, Woodstock and seconded by Mr. Geo. Hately, Brantford: "That we the members of the Western Dairymen's Association desire to record our satisfaction at the fact that a new pork-packing establishment is about to be started in this district, an industry connected with the success of modern dairying; and we specially wish to express our pleasure that one of the pioneers of the dairy industry of Canada, our honored friend and former president, Mr. E. Casswell, is to be connected with the new business in the city of London; and we hereby record our united wish for Mr. Casswell's success in his new position, and the hope that he may enjoy many years more of happiness and usefulness identified, as he has always been, and now is, with an interest that has done so much to promote the prosperity of Canada." Carried.

It is unnecessary for me to emphasize the resolution with any remarks. But I may say, speaking as a representative of Woodstock, that the establishment of this great pork-packing industry in London instead of in Woodstock was due to circumstances over which some of us had no control. I would not have moved this resolution had it been a question between one business centre and another, but it is a matter of great interest to the dairymen of the whole country and especially to those of Western Ontario. I believe that as a result of this you will get better prices for your pork then last season. The man who especially deserves thanks for what has been done is our friend Mr. Casswell. I had occasion to say some time ago in Ingersoll, that if we presented Mr. Casswell with a hundred thousand dollars, we would not repay him for the work he has done for the dairy industry of this country, and for the Canadian people. This is simply a tribute to him for what he has done, and to congratulate him upon his success.

Mr. HATELY: It affords me great pleasure to second the resolution, not only out of regard to our friend Mr. Casswell, but in recognition of the great business which he represents.

The PRESIDENT: It is not necessary for me to say anything in favor of Mr. Casswell before an audience that knows so well as this the work he has done. I congratulate London upon having secured this great industry, which I regard as one of the most important we could introduce in the city.

The resolution was carried unanimously.

Mr. CASSWELL: I feel very proud to have such a resolution as this passed by this Convention and I do not mind telling you candidly that I think I am worthy of it. Every man in this Convention knows that I have always done what I could to promote the interests of the Western Dairymen's Association. I believe I was one of the first of those who joined in this movement, which, owing to circumstances, has been of greater benefit to the country than to myself. At the same time, I do not want you to go away with the idea that I did it for the farmers altogether. I did it chiefly for E. Casswell, and though the farmers got more out of it than I did, I do not grudge it to them. I shall always be ready in the future as in the past, to do everything I can to advance the interests of this Association. In regard to the new industry, I have done the Canadian farmers some good in the past, but I honestly believe I can do far more good in the new position in which I am placed, if I can carry out the work that I see before me. The exports in this branch of industry need not be confined to ten or eleven millions if the farmers will feed the hogs as they are asked to do and will keep up a steady supply. I trust while I live to be connected with the Western Dairymen's Association. I want to say, if I am not taking up too much time, that I have found the directors of the Association always working for the advancement of the dairy industry regardless of their own interests. I do not think the Association could have a better man for President than Mr. John Geary. Being a practical farmer and a man of resolution, he will guide the proceedings of the Association according to the dictates of common sense and sound judgment. The efforts he and his fellow-directors are making to increase the membership of the Association, are worthy of our support. The farmers should support this Association, which is their own, and is conducted in their own interests. If Mr. Geary is backed up in the work he is doing, you will see even more good accomplished than in the past.

Mr. John Robertson presented the auditors' report as follows :

FINANCIAL STATEMENT.

| Receipts. | $ c. | Expenditure. | $ c. |
|---|---|---|---|
| Cash balance from 1891 | 290 42 | Grant to Western Fair, London, | 100 00 |
| Members' fees | 168 00 | Expenses of Convention | 53 66 |
| Legislative grant | 2,750 00 | Cost of reporting | 80 00 |
| | | Officers' salaries | 358 00 |
| | | Inspectors' salaries | 854 24 |
| | | Expenses of Inspectors | 27 75 |
| | | Expenses of Directors | 149 90 |
| | | Printing, postage and stationery | 62 80 |
| | | Paid for loans | 31 50 |
| | | A. T. Bell, Supt. Dairy School, 1891 | 700 00 |
| | | Balance on hand | 790 57 |
| | $3,208 42 | | $3,208 42 |

Examined and found correct,

John Robertson, } *Auditors.*
J. A. Ruddick. }

London, January 12, 1893.

On motion of Mr. Robertson, the report was received and adopted.

The following supplementary statement is not included in the above, not having yet been submitted to the auditors :

| Receipts. | | | Expenditure. | | |
|---|---|---|---|---|---|
| 1893, Jan. 10.— | $ | c. | 1893, Jan. 10.— | $ | c. |
| Fees for inspection, per T. B. Millar | 245 | 00 | Cash paid to Inspector Millar on Salary and Expense Account (including $10.37 of expenses *re* prosecution) | 391 | 43 |
| Fines and expenses of prosecutions | 51 | 37 | | | |
| Travelling expenses of Inspector received from factories visited | 95 | 06 | | | |
| | $391 | 43 | | | |

The President, in the name of the Association, extended thanks to the railway companies for facilities afforded members in reaching the meeting, and to the representatives and people of the city of London for courtesy they have shown. He also expressed his appreciation of the attendance of so many members, and having expressed the hope that future meetings might be equally successful, declared the Convention closed.

# REPORT

OF THE

# COMMISSIONER OF CROWN LANDS

OF THE

## PROVINCE OF ONTARIO,

FOR THE YEAR

## 1892

*PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.*

*TORONTO:*
PRINTED BY WARWICK & SONS, 68 & 70 FRONT STREET WEST
1893.

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# REPORT

OF THE

# COMMISSIONER OF CROWN LANDS

OF THE

# PROVINCE OF ONTARIO

FOR THE YEAR 1892.

---

*To His Honor the Honorable* George Airey Kirkpatrick,
*Lieutenant-Governor of the Province of Ontario.*

May it Please Your Honor :

As required by law, I submit, for the information of your Honor and the Legislative Assembly, a Report for the fiscal year ending on the 31st December, 1892, of the management, etc., of the Crown Lands of the Province

## CROWN LANDS.

The area of Crown lands sold during the year was 30,463 acres, aggregating in value $30,651.89. The collections on account of these and sales of former years amounted to $32,159.38.

Under the leasing clause of the Mines Act, 14,176$\frac{7}{8}$ acres were leased to various parties, upon which there was paid rent to the amount of $18,700.75. (See Appendix No. 3, page 6.)

## CLERGY LANDS.

The area of these lands sold during the year was 1,394$\frac{13}{20}$ acres, aggregating in value $1,836.35. The amount collected on account of these and former sales was $4,571.52. (See Appendix No. 3, page 6).

## COMMON SCHOOL LANDS.

The area of these lands sold during the year was 23 acres, aggregating in value $95. The collections on account of these and former sales amounted to $11,579.01. (See Appendix No. 3, page 6.)

## GRAMMAR SCHOOL LANDS.

The number of acres sold during the year was 659¼, aggregating in value $915.25. The collections on account of these and former sales was $1,117.20. (See Appendix No. 3, page 6.)

## RAILWAY LANDS.

Under "Railways Aid Act" of 1889, 52 Vict., c. 35, certain lands were set apart to be sold for the purpose of forming a fund to recoup the Province in respect of moneys expended in aiding railways. Of these lands, 974$\frac{2}{10}$ acres were sold, aggregating in value $939.13. The collections were $1,627.92. (See Appendix No. 3, page 6.)

## COLLECTIONS AND REVENUE.

The total collections of the Department on acconnt of all sources of revenue were $2,259,490.76, (See Appendix No. 4, page 7.)

## DISBURSEMENTS.

The total disbursements of the Department on account of all services and expenditures were $274,206.33. (See Appendix No. 6, pages 9 to 16.)

## WOODS AND FORESTS.

The total collections for the year amounted to $2,174,591.38, which includes $1,317,798.59 on account of bonuses. The revenue derived from timber dues, ground rent, etc., was $856,792.79. (See Appendix No. 7, page 17.)

The sawn lumber trade has not been in as prosperous a condition for many years as during that just closed. The demand for all kinds of lumber has been active, especially for the American market, and in sympathy therewith there has been an advance in prices. This satisfactory condition, so far as the American market is concerned, is owing no doubt in part to the reduction in the import duty on sawn lumber, shingles, etc., entering the United States. The duty, which was a specific one of two dollars a thousand, having been reduced to one dollar a thousand, enabled the coarser grades of lumber to be sent to that market at a profit, and thus much of the tree which was formerly not marketable at a profit and was wasted either by being left in the bush to burn or piled up in the mill-yard to rot, is now taken out and manufactured. The output of pine from the same area of territory will probably be considerably greater than it was before the removal of the duty, as everything that has any merchantable timber in it is now sawn.

There has been a demand for Canadian logs for export, to be sawn at saw-mills in the United States, but the export has not been as large as has been

publicly stated. Should the remaining dollar per thousand duty on Canadian lumber imported into the United States be removed at the next session of Congress, the advantage would all be in favor of manufacturing in Ontario, and it has been represented by those interested that in such case the export of sawlogs would be greatly lessened.

A sale of timber berths by public auction was held on the 13th of October last. The areas sold aggregated 633 miles, and were situated in the Nipissing, Algoma, Thunder Bay and Rainy River districts. Of the total area, 410 miles were in the district of Nipissing on the head waters of the Muskoka, Madawaska and Petawawa rivers, a small part of it being within the region proposed to be set apart as a provincial park. It is surrounded by licensed lands upon which lumbering is being actively carried on. The region contains a great many lakes and streams, well stocked with fish, while game of every kind is plentiful, and it is a great resort of hunting and fishing parties during the summer months. Settlement had approached from the Parry Sound district on the west up to the very confines of the pine timber, and overflowed into some of the townships. Considerable squatting had taken place and a number of settlers were resident with clearings, although every effort had been made to discourage people from settling there. No less than four railways are projected, all of which must pass through this territory, and the plans of the right of way of one of them filed in the Department showed it to traverse the densest pinery in the whole tract. Of this line—the Ottawa, Arnprior and Parry Sound Railway—twenty miles on the west end have already been built, and active construction is proceeding on the eastern end, the intention of the Company being to push the construction through as rapidly as possible. The Canadian Pacific Railway, under the charter of the Atlantic and North-west Railway Company, are also building a road parallel to and alongside of the Ottawa, Arnprior and Parry Sound Railway, on the eastern end of which construction is in progress. Under the circumstances stated, it was evident that the timber was becoming liable to destruction by fire in the immediate future, and that its early disposal would be prudent and advisable.

The sale of a considerable portion of this territory was called for by other considerations. Large saw-mills had been erected at various towns, and lumbering industries, giving employment to and supporting considerable populations, had grown up at these points. From time to time it had been represented to the Government that the limits from which some of these mills drew their supplies of timber were nearly exhausted, and that unless other sources of supply were found, some of them would be obliged to shut down for lack of material to saw ; and it was urged that these mill-owners should be given an opportunity of acquiring further supplies of timber by offering this territory, which was tributary to them all, for sale by public auction. From these considerations, that is,—the exposed condition of timber, the necessities of the mill-owners, and the buoyant state of the lumber trade,—it appeared that the time had arrived when the territory should be offered for sale as timber berths.

Advantage was taken of the holding of the sale to dispose of this territory, to offer two townships and a small part of a township in the District of Algoma, which lay within the mining belt and on which prospecting was actively proceeding,—mining locations

having been sold in some of them and a number of applications for others having been filed in the Department. Those berths in the Thunder Bay and Rainy River districts remaining undisposed of at the sale of 1890 were also included in the sale, thus bringing the whole area offered up to 633 miles.

For the purposes of this sale, two important changes were made. First, the pine timber only was offered for sale; and, second, with respect to the berths in the Nipissing and Algoma districts, the Crown dues, payable when the timber is cut, were increased one-fourth, viz: On sawlogs, from $1 to $1.25 per thousand feet board measure, and on square timber from $20 to $25 per thousand feet, cubic.

The attendance at the sale was large and representative of the lumbering interests of Canada and the United States. The prices realized were greatly in excess of those obtained at any former sale, the highest average per mile at any previous sale being $2,859.00 (obtained at the sale in 1887), while at this sale it reached $3,657.18. The total amount realized was $2,315,000, of which the sum of $1,227,665.63 on account of bonus was paid in during the year. Of the 633 miles offered, 564 were purchased by Canadians and 69 by Americans.

The Ontario Cullers' Act seems to be giving satisfaction and to meet the object for which it was passed. During the year just closed ten examinations were held at the different lumbering centres of the Province, at which 187 candidates presented themselves for examination. Of these, 136 were found qualified and were granted licenses. This number, added to the 371 who were licensed last year, makes the staff now available for duty 507, practically all of whom, I believe, have been able to secure employment during the present winter. The expenditure incident to the holding of the examinations was $934.30; the fees received amounted to $716.25, leaving an apparent expenditure beyond receipts of $218.05. Deducting from this the amount received last year from fees in excess of the cost of examinations and refunds, the net cost to the Department of examining these 507 men has been practically nil. A complete list of the licensed cullers and their post office addresses will be found on page 83.

## FIRE RANGING.

The fire ranging system continues to give satisfaction to those who avail themselves of its advantages. Owing to the past summer being wet, no great damage was done by forest fires. The total cost of the service was $31,976.38. The service of the year proper, however, cost only $18,362.73, $13,613.65 being carried from 1891, as, owing to the dryness of the autumn of that year and the numerous fires which took place, the accounts were not all received in time to be checked and paid before the end of the year. The amount refunded by the licensees was $9,993.02, of which $5,919.19 was on account of previous years, and $4,073.83 on account of last year.

## FISHERIES.

Since my last report, under the provisions of the Act for the Protection of the Provincial Fisheries, all Crown timber agents, forest rangers and fire rangers have been appointed *ex-officio* officers for the enforcement of the observance of this Act, and a few additional overseers have been appointed.

The revenue from permits, etc., was $484.

## FREE GRANTS.

There are 155 townships open for location under the Free Grants and Homesteads Act, the township of Burpee, in the District of Parry Sound, having been added since my last report.

During the last year 461 locations were made on 59,733 acres of land, and 62 locatees purchased 3,354 acres; 352 patents were issued to locatees. (See Appendix No. 9, page 20.)

## CROWN SURVEYS.

The following surveys of townships have been carried out this year:

In the District of Nipissing the township of Master has been sub-divided into farm lots of 100 acres each, the townships of Falconbridge, Maclennan, McLaren, Scadding, Street and Thistle into lots of 320 acres each; in the District of Algoma the townships of Bigelow and Gough have been sub-divided into lots of 320 acres each; in the District of Thunder Bay the township of Booth has been sub-divided into lots of 320 acres each; in the District of Rainy River the township of Spohn has been sub-divided into lots of 320 acres each; in this latter district also base and meridian lines have been run; in the District of Thunder Bay a survey of certain lakes and an exploration of a part of the country, have been performed.

The outlines of timber berths in the Districts of Nipissing, Algoma and Rainy River have been surveyed, and several minor surveys have been performed.

The returns of the above-named surveys have, so far as received, been examined, and in most cases closed. The particulars of these surveys will be found in Appendices Nos. 14 and 15, pages 29 and 30.

## MUNICIPAL SURVEYS.

The Department has, during the year, on the petitions of the municipal councils interested, issued instructions for surveys in the following townships: Binbrook, Egremont, Finch, Flos, North Monaghan, Montague, Nepean, Packenham, Ramsay and Winchester, and has during the same period confirmed two municipal surveys in the townships of Dunwich and Nepean.

The particulars relating to these surveys will be found in Appendices Nos. 12 and 13, pages 26 and 27.

## MINERAL SURVEYS.

The General Mining Act and the Mines Act, 1892, require that applicants to purchase or lease mining lands in unsurveyed territory shall file surveyor's plans, field notes and descriptions by metes and bounds of their locations, in the Department before any sale or lease is carried out.

Under these statutory regulations a number of applicants in the Districts of Algoma, Nipissing, Rainy River, and Thunder Bay have filed plans, etc., and an area of 3,900 acres has been sold and patented to them, for which nearly $12,000 has been received, and an area of 3,668 acres has been leased at $1 per acre for the first year's rental.

The particulars relating to these surveys and sales will be found in Appendices Nos. 16 and 17, pages 31 to 34 inclusive.

## COLONIZATION ROADS.

The work done during the year was as follows: Miles of new road constructed, 128; miles of road repaired, 455; bridges erected, 27, aggregating a length of one mile, and many others repaired. The work done was carefully inspected and reported to be of a satisfactory and substantial character.

The total expenditure was $105,574.25, of which certain items, amounting to $1,169.87 were refunded by the municipalities, and $748.99 refunded as unexpended, leaving the net expenditure of the Department to be $103,655.39.

Respectfully submitted,

A. S. HARDY,
Commissioner

Department of Crown Lands,
Toronto, December 31st, 1892.

# APPENDICES.

## APPENDIX NO. 1.

RETURN of Officers and Clerks, in the Department of Crown Lands, for the year 1892.

| Branch. | Name. | Designation. | When Appointed. | Salary per Annum. | Remarks. |
|---|---|---|---|---|---|
| | | | | $ c. | |
| | Hon. A. S Hardy | Commissioner | 1889, January 19 | 4,000 00 | |
| | Aubrey White | Assistant Commissioner | 1882, January 1 | 2,800 00 | |
| | George Kennedy | Law Clerk | 1872, February 1 | 2,000 00 | |
| | F. Yeigh | Shorthand Writer and Clerk | 1886, March 1 | 1,250 00 | |
| Sales and Free Grants | A. Kirkwood | Chief Clerk | 1854, March 21 | 1,900 00 | |
| | J. J. Murphy | Clerk in charge of Free Grants | 1872, May 1 | 1,400 00 | |
| | Julian Sale | Clerk | 1871, August 5 | 950 00 | |
| | E. S. Williamson | " | 1889, May 1 | 750 00 | |
| | C. J. M. Hardy | " | 1890, May 31 | 700 00 | |
| Surveys, Patents and Roads | G. B. Kirkpatrick | Director of Surveys | 1866, January 30 | 2,000 00 | |
| | W. Revell | Clerk | 1871, October 2 | 1,300 00 | |
| | W. F. Lewis | " | 1872, February 5 | 1,000 00 | |
| | J. M. Grant | Chief Clerk, Patents | 1860, May 12 | 1,400 00 | |
| | Pedro Alma | Clerk | 1871, August 1 | 1,250 00 | |
| | Henry Smith | Superintendent of Colonization Roads | 1881, January 1 | 1,900 00 | |
| | C. Cashman | Clerk | 1872, September 1 | 1,150 00 | |
| | J. H. Bradshaw | " | 1884, June 1 | 850 00 | |
| Woods and Forests | J. A. G. Crozier | Chief Clerk | 1867, December 1 | 1,650 00 | |
| | Theo. C. Taylor | Clerk | 1888, August 1 | 1,350 00 | |
| | H. R. Hardy | " | 1883, November 1 | 1,100 00 | |
| | H. E. Rudge | " | 1881, September 1 | 950 00 | Seven months only. |
| | Kenneth A. Miller | " | 1891, November 1 | 1,000 00 | |
| | J. J. Kelly | " | 1888, March 19 | 900 00 | |
| | P. J. Durkin | " | 1888, October 1 | 850 00 | |
| | Alex. McLaren | " | 1890, May 22 | 850 00 | |

APPENDIX NO. 1.—*Concluded.*

RETURN of Officers and Clerks, in the Department of Crown Lands, for the year 1892.

| Branch. | Name. | Designation. | When Appointed. | Salary per Annum. | Remarks. |
|---|---|---|---|---|---|
| | | | | $ c. | |
| 4 Accounts | D. G. Ross | Accountant | 1861, April 15 | 1,800 00 | |
| | E. Leigh | Clerk | 1873, December 20 | 1,200 00 | |
| | M. J. Ferris | " | 1892, April 1 | 850 00 | |
| | C. P. Higgins | " | 1873, July 1 | 1,100 00 | |
| | C. S. Jones | Registrar | 1890, May 22 | 1,500 00 | |
| Bureau of Mines | A. Blue | Director of Mines | 1891, May 8 | 2,500 00 | |
| | T. W. Gibson | Shorthand Writer | 1891, June 19 | 1,300 00 | |
| | Aaron Slaght | Inspector | 1890, April 18 | 750 00 | |
| | F. Frank | Acting Caretaker | 1886, December 1 | 500 00 | |
| | D. Kinnan | Night Watchman | 1873, April 1 | 500 00 | |
| | Harry Lake | Messenger | 1891, October 7 | 240 00 | |

D. GEO. ROSS,
Accountant.

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 31st December, 1892.

## APPENDIX No. 2.

### List of Crown Land Agents for the disposal of Free Grants, for 1892.

| Name. | District or County. | Date of Appointment. | Salary per Annum. | Remarks. |
|---|---|---|---|---|
| | | | $ c. | |
| Anderson, D | Part of Peterborough | 1870, November 21 | 500 00 | |
| Beet, S. G | " Parry Sound District | 1875, March 23 | 500 00 | |
| Brown, C. P | " Algoma District | 1872, June 25 | 200 00 | Resigned 20 May, 1892. |
| Campbell, A | " Rainy River District | 1891, May 8 | 200 00 | |
| Cockburn, J. D | Nipissing District | 1884, May 21 | 500 00 | Agent for Sale of Lands. |
| Dawson, G. W | " Frontenac and Addington | 1882, February 17 | 200 00 | Resigned Dec., 1892. |
| Dill, J. W | " District of Muskoka | 1888, August 1 | 500 00 | Resigned July, 1892. |
| Fielding, W | " Victoria | 1882, February 23 | 500 00 | |
| Gilligan, B. J | " Nipissing District | 1884, March 26 | 500 00 | |
| Hamilton, G | St. Joseph Island | 1890, September 20 | 200 00 | |
| Handy, E | Part of Parry Sound District | 1879, January 3 | 500 00 | |
| Hollands, C. J | Town plot of Alberton | 1892, October 12 | 100 00 | |
| Kirk, W | Part of District of Muskoka | 1892, July 28 | 500 00 | |
| Mackay, T | " Parry Sound District | 1881, December 5 | 500 00 | |
| Macpherson, R | " Frontenac | 1871, July 18 | 500 00 | Agent for Sale of Lands. |
| Marsh, R. J. F | " Rainy River District | 1891, May 8 | 200 00 | |
| McDonald, D. G | " Algoma District | 1888, December 3 | 500 00 | Agent for Sale of Lands. |
| Nichols, W. L | " Algoma District | 1885, August 27 | 500 00 | |
| Reeves, J | " Nipissing District | 1872, February 12 | 500 00 | |
| Ruttan, J. F | " Thunder Bay District | 1889, May 16 | 250 00 | Agent for Sale of Lands. |
| Ryan, T. J | " Algoma District | 1888, June 15 | 500 00 | |
| Scarlett, J. S | " Parry Sound District | 1880, June 17 | 500 00 | |
| Stewart, C. R | " Hastings and Peterborough | 1882, May 1 | 500 00 | |
| Stewart, James | " Renfrew | 1891, September 26 | 400 00 | |
| Tait, J. R | " Hastings | 1869, May 28 | 500 00 | |
| Whelan, J | " Renfrew | 1884, September 19 | 500 00 | |
| Wilson, Wm | " Rainy River District | 1891, June 19 | 200 00 | |
| Turner, Wm | " Algoma District | 1892, October 5 | 200 00 | |
| Wood, Ames W | " Frontenac and Addington | 1892, December 31 | 200 00 | |

D. GEO. ROSS,
Accountant.

AUBREY WHITE,
Assistant Commissioner.

Department of Crown Lands,
Toronto, 31st December, 1892.

## APPENDIX No. 3.

STATEMENT of Lands Sold and Leased, Amount of Sales, and Amount Collected on Sales and Leases, for the year 1892.

| Service | Acres Sold and Leased. | Amount of Sales. | Amount Collected on Sales and Leases. |
|---|---|---|---|
| | | $ c. | $ c. |
| Railway Lands | 974 9/20 | 939 13 | 1,627 92 |
| Crown Lands | 30,463 | 30,651 89 | 32,159 38 |
| Clergy Lands | 1,394 11/20 | 1,836 35 | 4,571 52 |
| Common School Lands | 23 | 95 00 | 11,579 01 |
| Grammar School Lands | 659 1/4 | 915 25 | 1,117 20 |
| Rent | 14,176 7/8 | | 18,700 75 |
| Total | 47,691 31/40 | 34,437 62 | 69,755 78 |

AUBREY WHITE,
Assistant Commissioner.

D. GEO. ROSS,
Accountant.

DEPARTMENT OF CROWN LANDS,
TORONTO, 31st December, 1892.

## APPENDIX No. 4.

STATEMENT of the Gross Revenue of the Department of Crown Lands, for the year 1892.

| Service. | $ c. | $ c. |
|---|---|---|
| *Land Collections:* | | |
| Railway Lands | 1,627 92 | |
| Crown Lands | 32,159 38 | |
| Clergy Lands | 4,571 52 | |
| Common School Lands | 11,579 01 | |
| Grammar School Lands | 1,117 20 | |
| Rent | 18,700 75 | |
| | | 69,755 78 |
| *Woods and Forests:* | | |
| Timber Dues | 797,680 40 | |
| Ground Rent | 59,112 39 | |
| Bonus | 1,317,798 59 | |
| | | 2,174,591 38 |
| Casual fees | 542 72 | |
| Board of Surveyors | 133 50 | |
| Cullers' fees | 716 25 | |
| Fishing license fees | 484 00 | |
| | | 1,876 47 |
| *Expenditure Refunds:* | | |
| Forest fire protection | 9,993 02 | |
| Agents' salaries | 331 00 | |
| Cullers' examinations | 10 80 | |
| Inspections | 3 10 | |
| Colonization Roads | 1,918 86 | |
| Surveys | 1,010 35 | |
| | | 13,267 13 |
| | | 2,259,490 76 |

D. GEO. ROSS,
Accountant.

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 31st December, 1892.

## APPENDIX No. 5.

STATEMENT of the Receipts of the Department of Crown Lands, for the year 1892, which are considered as Special Funds.

| Service. | $ c. | $ c. |
|---|---|---|
| *Clergy Lands:* | | |
| Principal | 2,510 33 | |
| Interest | 2,061 19 | |
| | | 4,571 52 |
| *Common School Lands:* | | |
| Principal | 4,369 79 | |
| Interest | 7,209 22 | |
| | | 11,579 01 |
| *Grammar School Lands:* | | |
| Principal | 962 95 | |
| Interest | 154 25 | |
| | | 1,117 20 |
| *Railway Lands:* | | |
| Principal | 1,627 92 | |
| Rent | 1,111 85 | |
| | | 2,739 77 |
| | | 20,007 50 |

AUBREY WHITE,
Assistant Commissioner.

D. GEO. ROSS,
Accountant.

DEPARTMENT OF CROWN LANDS,
TORONTO, 31st December, 1892.

## APPENDIX No. 6.

Statement of the Disbursements of the Department of Crown Lands for the year 1892

| Service. | $ c. | $ c. | $ c. |
|---|---|---|---|
| AGENTS' SALARIES AND DISBURSEMENTS. | | | |
| *Salaries—Land.* | | | |
| Anderson, D | 500 00 | | |
| Best, S. G | 500 00 | | |
| Brown, C. P | 77 40 | | |
| Campbell, A. G | 200 00 | | |
| Cockburn, J. D | 500 00 | | |
| Dawson, G. W | 200 00 | | |
| Dill, J. W | 291 66 | | |
| Fielding, W | 500 00 | | |
| Gilligan, B. J | 500 00 | | |
| Handy, E | 500 00 | | |
| Hamilton, G | 200 00 | | |
| Hollands, C. J | 21 93 | | |
| Kirk, W | 204 45 | | |
| Macdonald, D. G | 500 00 | | |
| Mackey, T | 500 00 | | |
| Macpherson, R | 500 00 | | |
| Marsh, R. J. F | 200 00 | | |
| Nichols, W. L | 500 00 | | |
| Reeves, J | 500 00 | | |
| Ruttan, J. F | 250 00 | | |
| Ryan, T. J | 500 00 | | |
| Scarlett, J. S | 500 00 | | |
| Stewart, C. R | 500 00 | | |
| Stewart, James | 400 00 | | |
| Tait, J. R | 500 00 | | |
| Turner, W | 47 67 | | |
| Whelan, J | 500 00 | | |
| Wilson, W | 200 00 | | |
| | | 10,293 11 | |
| *Salaries—Timber.* | | | |
| Campbell, P. C | 1,600 00 | | |
| Margach, Wm | 1,600 00 | | |
| Macdonald, D. F | 1,600 00 | | |
| Munro, H | 1,200 00 | | |
| McWilliams, J. B | 2,000 00 | | |
| Tassé, D | 100 00 | | |
| | | 8,100 00 | |
| *Fisheries—Salaries.* | | | |
| Bole, Duncan | 16 68 | | |
| Clark, N | 50 00 | | |
| Emmons, J | 100 00 | | |
| Huntington, S. A | 37 32 | | |
| Johnson, J. A | 250 00 | | |
| Little, J. J | 50 00 | | |
| Moore, F. J. M | 100 00 | | |
| McCann, P | 10 00 | | |
| McDermott, B | 50 00 | | |
| McKewen, S | 50 00 | | |
| McKerdy, W | 50 00 | | |
| Smith, R. R | 50 00 | | |
| Willmott, J. H | 50 00 | | |
| | | 864 00 | |
| *Carried forward* | | | |

APPENDIX No. 6.—*Continued.*

Statement of the Disbursements of the Department of Crown Lands for the year 1892.

| Service. | $ c. | $ c. | $ c. |
|---|---|---|---|
| *Brought forward* | | | |
| AGENTS' DISBURSEMENTS. | | | |
| *Land.* | | | |
| Anderson, D | 4 67 | | |
| Best, S. G | 15 00 | | |
| Cockburn, J. D | 24 92 | | |
| Dawson, G. W | 6 70 | | |
| Dill, J. W | 20 25 | | |
| Handy, E | 16 62 | | |
| Hamilton, G | 9 54 | | |
| Kennedy, John | 4 14 | | |
| Kirk, W | 13 85 | | |
| Mackey, T | 2 40 | | |
| Marsh, R. J. F | 14 50 | | |
| Nichols, W. L | 10 30 | | |
| Ryan, T. J | 13 75 | | |
| Scarlett, J. S | 17 60 | | |
| Stewart, C. R | 12 33 | | |
| Tait, J. R | 7 67 | | |
| Whelan, J | 2 31 | | |
| | | 196 55 | |
| *Timber.* | | | |
| Campbell, P. C | 267 30 | | |
| Margach, Wm | 1,337 45 | | |
| Macdonald, D. F | 360 59 | | |
| Munro, H | 150 00 | | |
| McWilliams, J. B | 395 00 | | |
| | | 2,510 34 | |
| *Fisheries.* | | | |
| Moore, F. J. M | 34 63 | | |
| Smith, R. R | 3 00 | | |
| Willmott, J. H | 40 03 | | |
| | | 77 66 | |
| *Miscellaneous.* | | | |
| Carpenter, W. H., Inspection | 216 90 | | |
| Coombe, F. E., " | 4 00 | | |
| Christie, W. P., " | 136 70 | | |
| Ferris, J. M., " | 2 50 | | |
| Garrow, E., " | 211 50 | | |
| Galbraith, W., " | 18 00 | | |
| Gibson, T. W., travelling expenses | 10 15 | | |
| Graham, J. R., inspection | 18 25 | | |
| Hamblin, J. J., " | 6 00 | | |
| Hardy, Hon. A. S., travelling expenses | 91 00 | | |
| Jones, C. S., inspection of agencies | 76 03 | | |
| Kennedy, Geo., travelling expenses | 40 00 | | |
| McSherry, ——, inspection | 91 00 | | |
| Shannon, P. M., " | 2 00 | | |
| Soper, M. L., " | 36 00 | | |
| Taylor, Theo. C., travelling expenses | 30 00 | | |
| White, A., " " | 200 00 | | |
| Yeigh, F., inspection of agencies | 207 05 | | |
| | | 1,397 08 | |
| | | | 23,438 74 |
| *Carried forward* | | | 23,438 74 |

APPENDIX No. 6.—*Continued.*

Statement of the Disbursements of the Department of Crown Lands for the year 1892.

| Service. | $ c. | $ c. | $ c. |
|---|---|---|---|
| *Brought forward* | | | 23,438 74 |
| CROWN TIMBER AGENCY, QUEBEC. | | | |
| *Salaries.* | | | |
| Mackey, J. (deceased) | 75 00 | | |
| Nicholson, B., agent | 1,400 00 | | |
| Harney, Thos., clerk and messenger | 337 47 | | |
| | | 1,812 47 | |
| Contingencies | | 460 67 | |
| | | | 2,273 14 |
| CROWN TIMBER AGENCY, OTTAWA. | | | |
| Macdonald, W. J. (deceased) | 125 00 | | |
| Darby, E. J., acting agent | 900 00 | | |
| Larose, S. C., clerk | 850 00 | | |
| | | 1,875 00 | |
| Contingencies | | 735 22 | |
| | | | 2,610 22 |
| WOOD RANGING AND INSPECTION OF TIMBER LANDS. | | | |
| Brady, John | | 841 00 | |
| Bremner, J. L. | | 557 30 | |
| Cunningham, John | | 642 00 | |
| Campbell, P. C | | 219 33 | |
| Christie, W. P | | 35 35 | |
| Fraser, D | | 394 00 | |
| Gardner, J | | 788 55 | |
| Garrow, E | | 641 33 | |
| Hanes, J. L. | | 227 00 | |
| Halliday, James | | 785 00 | |
| Halliday, Frank | | 1,727 43 | |
| Henderson, Chas | | 1,205 15 | |
| Johnson, S. M | | 1,691 28 | |
| Kennedy, John | | 1,208 38 | |
| Ludgate, Theo | | 1,669 90 | |
| McGown, Thos | | 791 71 | |
| McCogherty, P | | 1,135 10 | |
| McSherry, P | | 90 00 | |
| McGown, Wm | | 1,113 18 | |
| Moore, D. H | | 1,264 25 | |
| Paget, Geo | | 1,490 77 | |
| Regan, John | | 1,089 66 | |
| Ross, Alex | | 225 88 | |
| Robinson, Wm | | 818 10 | |
| Russell, Wm | | 1,604 24 | |
| Sinclair, T | | 718 95 | |
| Smith, J. W | | 1,482 05 | |
| Smith, A. C | | 65 66 | |
| Sullivan, John | | 1,025 00 | |
| Turgeon, J. B | | 630 00 | |
| Walters, Thos | | 7 85 | |
| White, J. B | | 805 00 | |
| Wickware, P. A. | | 94 50 | |
| | | | 27,084 90 |
| *Carried forward* | | | |

APPENDIX No. 6.—*Continued.*

Statement of the Disbursements of the Department of Crown Lands for the year 1892

| Service. | | $ c. | $ c. | $ c. |
|---|---|---|---|---|
| *Brought forward* | | | | |
| FIRE RANGING. | | | | |
| Aussant, T. | 1892 | 104 00 | | |
| Disbursements | | 136 25 | | |
| | | | 240 25 | |
| Austin, C. | 1892 | | 144 00 | |
| Britton, L. P | 1890 | | 12 00 | |
| Bell, John W. | 1891 | 262 00 | | |
| Disbursements | | 36 00 | | |
| | | | 298 00 | |
| Bruce, Geo. | 1891 | | 254 00 | |
| Blanchette, O | 1891 | | 240 00 | |
| Brooks, E. J. | 1891 | | 4 00 | |
| Bartlett, G. W | 1892 | 262 00 | | |
| Disbursements | | 26 75 | | |
| | | | 288 75 | |
| Bromley, T | 1891-2 | 84 00 | | |
| Disbursements | | 1,451 27 | | |
| | | | 1,535 27 | |
| Boland, John M. | 1892 | | 226 00 | |
| Brennan, S | 1892 | | 84 00 | |
| Boland, A. G. | 1892 | | 236 00 | |
| Bowland, Wm | 1892 | | 234 75 | |
| Barclay, Geo | 1892 | | 262 00 | |
| Bradley, H. | 1892 | | 92 00 | |
| Bremner, Wm | 1892 | | 126 00 | |
| Coghlin, John | 1891-2 | 524 00 | | |
| Disbursements | | 139 00 | | |
| | | | 663 00 | |
| Coghlin, Thos | 1892 | | 262 00 | |
| Cochrane, John | 1891-2 | 308 00 | | |
| Disbursements | | 396 75 | | |
| | | | 704 75 | |
| Cody, L | 1892 | | 182 00 | |
| Colville, M. | 1892 | | 92 50 | |
| Carter, R | 1892 | | 250 00 | |
| Conway, John | 1892 | | 210 00 | |
| Crawford, D. | 1892 | | 262 00 | |
| Driver, Jos. | 1892 | | 258 00 | |
| Dufond, J. | 1891-2 | | 262 00 | |
| Dunn, P | 1891-2 | 284 00 | | |
| Disbursements | | 781 60 | | |
| | | | 1,065 60 | |
| Dupuis, L | 1892 | | 212 00 | |
| Dwyer, Jas. | 1892 | | 262 00 | |
| Elcome, E. | 1892 | | 216 00 | |
| Elmhurst, Wm | 1891-2 | 280 00 | | |
| Disbursements | | 22 50 | | |
| | | | 302 50 | |
| Fenton, J. E. | 1892 | | 216 00 | |
| Gongeon, A | 1891-2 | | 532 00 | |
| Gallagher, Jas. | 1892 | | 258 60 | |
| Gilroy, S | 1892 | | 210 00 | |
| Goer, John | 1892 | | 104 00 | |
| Grawberger, T. | 1891-2 | | 472 00 | |
| Haley, C. | 1891-2 | 524 00 | | |
| Disbursements | | 21 00 | | |
| | | | 545 00 | |
| *Carried forward* | | | | |

APPENDIX No. 6.—*Continued.*

Statement of the Disbursements of the Department of Crown Lands for the year 1892

| Service. | | $ c. | $ c. | $ c. |
|---|---|---|---|---|
| *Brought forward* | | | | |
| FIRE RANGING—*Continued.* | | | | |
| Hadley, J. J | 1891 | | 26 00 | |
| Harris, John | 1892 | | 262 00 | |
| Hendricks, W | 1891 | 226 00 | | |
| Disbursements | | 43 50 | | |
| | | | 269 50 | |
| Henderson, Jas | 1892 | | 72 00 | |
| Higgins, John | 1892 | | 210 00 | |
| Hillis, John | 1891-2 | 302 00 | | |
| Disbursements | | 8 25 | | |
| | | | 310 25 | |
| Huckson, A. H | 1891 | | 220 00 | |
| Humphrey, T. W | 1892 | | 196 00 | |
| Inwood, A | 1892 | | 152 00 | |
| Johnson, E | 1891-92 | | 396 00 | |
| Johnson, R. W | 1892 | | 262 00 | |
| Johnston, W | 1892 | | 84 00 | |
| Kirby, Thos | 1891 | | 198 00 | |
| Latour, F | 1892 | | 262 00 | |
| Lawson, A | 1890-91 | 79 50 | | |
| Disbursements | | 12 00 | | |
| | | | 91 50 | |
| Mackey, W. C | 1892 | | 58 00 | |
| Maguire, A. H | 1892 | | 54 00 | |
| Maves, William | 1892 | | 80 00 | |
| May, M | 1891 | | 194 00 | |
| Martin, A. R | 1882 | | 157 50 | |
| Miller, M | 1892 | | 107 50 | |
| Mitchell, J. C | 1891-92 | | 154 00 | |
| Moore, J | 1892 | | 34 00 | |
| Murphy, John | 1891-2 | 522 00 | | |
| Disbursements | | 42 63 | | |
| | | | 564 63 | |
| McBrien, R | 1891 | | 260 00 | |
| McCarthy, J | 1891 | 262 00 | | |
| Disbursements | | 146 30 | | |
| | | | 408 30 | |
| McCaunse, H | 1892 | 62 00 | | |
| Disbursements | | 11 26 | | |
| | | | 73 26 | |
| McCormack, J. C | 1892 | | 131 00 | |
| McCreight, John | 1892 | | 246 00 | |
| McConnee, H | 1891 | 162 00 | | |
| Disbursements | | 27 25 | | |
| | | | 189 25 | |
| McDermott P | 1891 | | 236 00 | |
| McDonnell, A | 1891-2 | 524 00 | | |
| Disbursements | | 439 55 | | |
| | | | 963 55 | |
| *Carried forward* | | | | |

APPENDIX No. 6.—*Continued.*

Statement of the Disbursements of the Department of Crown Lands for the year 1892.

| Service. | | $ c. | $ c. | $ c. |
|---|---|---|---|---|
| *Brought forward* | | | | |
| FIRE RANGING—*Continued.* | | | | |
| McDonald, J. W | 1891 | 262 00 | | |
| Disbursements | | 12 00 | | |
| | | | 274 00 | |
| McDonald, R | 1892 | | 244 00 | |
| McDougall, D | 1892 | | 254 00 | |
| McEwan, Wm | 1892 | | 72 00 | |
| McFarlane, J | 1892 | 190 00 | | |
| Disbursements | | 110 52 | | |
| | | | 300 52 | |
| McGown, Wm | 1892 | | 24 00 | |
| McGuire, Jas | 1892 | | 262 00 | |
| McGuey, D | 1891 | 262 00 | | |
| Disbursements | | 918 03 | | |
| | | | 1,180 03 | |
| McKay, W. G | 1891 | | | |
| Disbursements | | | 936 75 | |
| McKay, Angus | 1892 | | 86 25 | |
| McIntyre, Wm | 1891 | 262 00 | | |
| Disbursements | | 128 09 | | |
| | | | 390 09 | |
| McNabb, Wm | 1891-2 | | 472 00 | |
| McNeil, A | 1891 | 244 00 | | |
| Disbursements | | 12 38 | | |
| | | | 256 38 | |
| Nevers, C | 1892 | | 212 00 | |
| Oram, John | 1891-2 | | 524 00 | |
| O'Grady, J. L | 1891 | | 262 00 | |
| O'Neil, A. J | 1892 | | 314 00 | |
| Patterson, John | 1892 | | 210 00 | |
| Petras, J. C | 1892 | | 210 00 | |
| Prince, A | 1891-2 | | 524 00 | |
| Plourde, C | 1891-2 | | 415 00 | |
| Porter, Jas | 1892 | | 50 00 | |
| Richards, G | 1892 | | 260 00 | |
| Sage, N | 1892 | | 96 00 | |
| Scantlin, Jas | 1891-2 | 152 00 | | |
| Disbursements | | 295 87 | | |
| | | | 447 87 | |
| Sheehan, P. F | 1891-2 | | 446 00 | |
| Shields, J. A | 1892 | 156 00 | | |
| Disbursements | | 3 75 | | |
| | | | 159 75 | |
| Skuce, Thos | 1891-2 | 524 00 | | |
| Disbursements | | 618 59 | | |
| | | | 1,142 59 | |
| *Carried forward* | | | | |

APPENDIX No. 6.—*Continued.*

STATEMENT of the Disbursements of the Department of Crown Lands for the year 1892.

| Service. | | $ c. | $ c. | $ c. |
|---|---|---|---|---|
| *Brought forward* | | | | |
| FIRE RANGING.—*Continued.* | | | | |
| Smith, G. O | 1890-91 | | 472 00 | |
| Smith, A. C | 1891 | | | |
| Disbursements | | | 15 00 | |
| Stable, D | 1892 | | 76 00 | |
| Streatfield, J. C | 1892 | | 140 00 | |
| Thaxter, R | 1891 | | 252 00 | |
| Thivierge, X | 1892 | | 262 00 | |
| Thomas, R | 1891 | 262 00 | | |
| Disbursements | | 44 54 | | |
| | | | 306 54 | |
| Tough, Jno | 1892 | | 220 00 | |
| Tramblay, O | 1892 | | 260 00 | |
| Vankoughnet, J | 1890-91 | | 56 25 | |
| Vannier, N | 1892 | | 210 00 | |
| Welsh, J | 1891 | 262 00 | | |
| Disbursements | | 31 25 | | |
| | | | 293 25 | |
| Wilson, John | 1891 | 156 00 | | |
| Disbursements | | 1 50 | | |
| | | | 157 50 | |
| Willing, Jos | 1892 | | 24 00 | |
| Willette, P | 1892 | | 208 00 | |
| Young, William | 1892 | | 258 00 | |
| | | | | 31,976 38 |
| EXAMINATION OF CULLERS. | | | | |
| Aylesworth, W. R | | 13 10 | | |
| Brady, John | | 27 25 | | |
| Christie, W. P | | 44 50 | | |
| Dollar, Jas | | 31 75 | | |
| Gilligan, B. J | | 12 00 | | |
| Garrow, E | | 28 95 | | |
| Henderson, C | | 50 45 | | |
| Halliday, F | | 32 50 | | |
| Johnson, S. M | | 23 85 | | |
| Kennedy, J. C | | 16 00 | | |
| Kennedy, John | | 40 40 | | |
| Ludgate, Theo | | 47 15 | | |
| Macdonald, D. F | | 89 20 | | |
| Moore, D. F | | 24 35 | | |
| Marsh, E. J | | 55 95 | | |
| McCogherty, P | | 67 15 | | |
| McKendry, W. B | | 43 20 | | |
| McGown, Thos | | 74 20 | | |
| Ritter, S. G | | 31 35 | | |
| Russel, W | | 35 20 | | |
| Smith, J. W | | 13 95 | | |
| Tait, T. B | | 54 00 | | |
| | | | 856 45 | |
| Advertising | | | 77 85 | |
| | | | | 934 30 |
| *Carried forward* | | | | |

APPENDIX No. 6.—*Concluded.*

Statement of the Disbursements of the Department of Crown Lands for the year 1892.

| Service. | $ c. | $ c. | $ c. |
|---|---|---|---|
| *Brought forward* | | | |
| BUREAU OF MINES. | | | |
| Blue, A., salary | 2,500 00 | | |
| Gibson, T. W., salary | 1,300 00 | | |
| Slaght, A., salary | 750 00 | | |
| | | 4,550 00 | |
| Blue, A., travelling expenses | 309 90 | | |
| Gibson, T. W., travelling expenses | 5 00 | | |
| Slaght, A., " | 446 01 | | |
| | | 760 91 | |
| Printing and binding | 390 08 | | |
| Books | 77 66 | | |
| Postage and telegraphing | 210 06 | | |
| Advertising | 100 00 | | |
| Subscriptions | 73 00 | | |
| | | 850 80 | |
| | | | 6,161 71 |
| Refunds | | | 17,492 64 |
| Colonization Roads | | | 105,574 25 |
| Surveys | | | 43,226 75 |
| Board of Surveyors | | | 350 00 |
| *Timber Sale:* | | | |
| Advertising | | 3,343 20 | |
| Auctioneer's fees | | 700 00 | |
| | | | 4,043 20 |
| CONTINGENCIES. | | | |
| Printing and binding | 1,715 42 | | |
| Stationery | 1,702 05 | | |
| | | 3,417 47 | |
| Postage and telegraphing | | 1,519 42 | |
| Subscriptions and advertising | | 793 46 | |
| Acting Housekeeper and Messenger | 500 00 | | |
| Messenger | 240 00 | | |
| Night Watchman | 500 00 | | |
| Fireman | 313 50 | | |
| | | 1,553 50 | |
| Extra Clerk's services in making Parliamentary Returns | | 1,385 39 | |
| Sundries | | 370 86 | |
| | | | 9,040 10 |
| | | | 274,206 33 |

D. GEO. ROSS,
Accountant.

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 31st December, 1892.

## APPENDIX 7.

### Woods and Forests.

Statement of Revenue collected during the year ending 31st December, 1892.

| | $ c. | $ c. |
|---|---|---|
| Amount of Western District, collections at Department | 1,795,501 83 | |
| " " " Quebec | 39,035 85 | |
| | | 1,834,537 68 |
| Amount of Belleville collections | 93,352 09 | |
| | | 93,352 09 |
| Amount of Ottawa collections | 225,126 80 | |
| " " " at Quebec | 21,574 81 | |
| | | 246,701 61 |
| Total | | 2,174,591 38 |

AUBREY WHITE,
Assistant Commissioner.

J. A. G. CROZIER,
Chief Clerk in Charge.

Department of Crown Lands,
Woods and Forests Branch,
Toronto, 31st December, 1892.

APPENDIX

WOODS AND

Statement of Timber and Amounts accrued from Timber Dues, Ground

QUANTITIES AND

| Agencies. | Area covered by Timber Licenses. | Saw Logs. | | | | Boom and | |
|---|---|---|---|---|---|---|---|
| | | Pine. | | Other. | | Pine. | |
| | Square Miles. | Pieces. | Feet. | Pieces. | Feet. | Pieces. | Feet. |
| Western Timber District. | 6,401 | 4,640,646 | 411,069,111 | 28,825 | 1,136,046 | 151,533 | 27,793,974 |
| Belleville Timber District | 1,435 | 670,794 | 69,649,772 | 66,725 | 3,494,730 | 21,157 | 5,194,038 |
| Ottawa Timber District.. | 5,051 | 1,113,035 | 125,471,239 | 14,865 | 968,578 | 56,460 | 9,309,73 |
| Total ..... .... | 12,887 | 6,424,475 | 606,190,122 | 110,415 | 5,599,354 | 229,150 | 42,297,750 |

GENERAL STATEMENT OF

| Agencies. | Square Timber. | | | | Lineal feet Cedar. | | Cordwood. | | Pulp Wood. |
|---|---|---|---|---|---|---|---|---|---|
| | Tamarac. | | Hemlock. | | | | | | |
| | Pieces. | Feet. | Pcs. | Feet. | Pieces. | Feet. | Hard Cords. | Soft Cords. | Cords. |
| Western Timber District. ..... | ..... | ..... | ..... | ..... | ..... | 106,302 | 14,149 | 54,092 | 6,688 |
| Belleville Timber District | 154 | 5,114 | 1,285 | 53,424 | ..... | 139,198 | 238 | 283 | ..... |
| Ottawa Timber District.. .... ... | ..... | ..... | ..... | ..... | ..... | 80,932 | 214 | 931 | 856 |
| Total ..... | 154 | 5,114 | 1,285 | 53,424 | ..... | 326,432 | 14,601 | 55,306 | 7,544 |

J. A G. CROZIER,
Chief Clerk in Charge.

Department of Crown Lands, Woods and Forests Branch,
Toronto, 31st December, 1892.

No. 8.

FORESTS.

Rent and Bonus during the year ending 31st December, 1892.

DESCRIPTION OF TIMBER.

| Dimension Timber. | | Square Timber. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Other. | | White Pine. | | Red Pine. | | Birch, Ash and Elm. | | Oak. | |
| Pieces. | Feet. | Pieces. | Feet. | Pieces. | Feet. | Pieces. | Feet. | Pieces. | Feet. |
| 2,629 | 281,890 | 54,541 | 2,869,771 | 300 | 12,257 | B 323<br>A 12 | 11,422<br>453 | ..... | ..... |
| 1,273 | 216,834 | 1,749 | 70,170 | ..... | ..... | B 64<br>E 7<br>A 14 | 1,253<br>253<br>257 | 124 | 1,953 |
| 17,342 | 1,703,259 | 17,274 | 901,912 | 128 | 5,209 | A 8 | 343 | ..... | ..... |
| 21,244 | 2,206,983 | 73,564 | 3,841,853 | 428 | 17,466 | A 34<br>B 387<br>E 7 | 1,053<br>12,675<br>253 | 124 | 1,953 |

TIMBER, ETC.—*Continued.*

| Tan Bark. | Railway Ties. | Posts. | Shingle Bolts. | Telegraph Poles. | Traverses. | Stave Bolts. | Amounts Accrued. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C'rds | Pieces. | C'rds. | C'rds. | Pcs. | Pcs. | C'rds. | Interest Trespass, etc. | Timber Dues. | Bonus. | Ground Rent. | Total. |
| | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. |
| .... | 522,718 | 480 | 6,749 | 45 | ..... | 706 | 16,104 72 | 532,774 54 | 1,305,853 86 | 31,598 50 | 1,886,331 62 |
| 9 | 33,876 | 1,454 | 2 | 231 | ..... | ..... | 902 85 | 80,870 11 | ..... | 5,589 75 | 87,362 71 |
| .... | 72,304 | 171 | 12 | ..... | 3,779 | ..... | 2,935 14 | 154,338 15 | 3,407 05 | 21,418 00 | 182,098 34 |
| 9 | 628,898 | 2,105 | 6,763 | 276 | 3,779 | 706 | 19,942 71 | 767,982 80 | 1,309,260 91 | 58,606 25 | 2,155,792 6 |

AUBREY WHITE,
Assistant Commissioner.

## APPENDIX No. 9.

Return of the number of locatees and of acres located; of purchasers and of acres sold; of lots resumed for non-performance of the settlement duties, and of patents issued under the "Free Grants and Homestead Act" during the year 1892.

| TOWNSHIP. | DISTRICT OR COUNTY. | AGENT. | Number of persons located. | Number of acres located. | Number of purchasers. | Number of acres sold. | Number of lots the locations of which have been cancelled | Number of patents issued. |
|---|---|---|---|---|---|---|---|---|
| Baxter | Muskoka | Wm. Kirk Bracebridge | 1 | 199 | | | | 1 |
| Brunel | | | | | | | 1 | 4 |
| Chaffey | | | 5 | 697 | | | 5 | 6 |
| Draper | | | 4 | 364 | | | 4 | 1 |
| Franklin | | | 7 | 698 | 3 | 152 | 4 | |
| Macaulay | | | 1 | 100 | | | 1 | 1 |
| Medora | | | 7 | 1,122 | 4 | 237 | 10 | 4 |
| Monck | | | 1 | 200 | | | 2 | 2 |
| Morrison | | | 6 | 823 | | | 6 | 3 |
| Muskoka | | | 7 | 674 | | | 4 | 2 |
| McLean | | | 6 | 902 | | | 8 | 3 |
| Oakley | | | 10 | 1,627 | | | 11 | 4 |
| Ridout | | | 8 | 1,046 | | | 9 | |
| Ryde | | | | | | | | 1 |
| Sinclair | | | 10 | 1,416 | 1 | 2 | 3 | 8 |
| Sherborne | | | 1 | 89 | | | | |
| Stephenson | | | 3 | 301 | | | 3 | |
| Stisted | | | 2 | 396 | | | 1 | 5 |
| Watt | | | 8 | 1,139 | 2 | 256 | 15 | 6 |
| Wood | | | 15 | 2,102 | 2 | 126 | 20 | 5 |
| Cardwell | Parry Sound | Mrs. T. Mackay, Parry Sound. | 4 | 500 | | | 4 | 3 |
| Carling | | | 4 | 646 | | | 6 | 1 |
| Christie | | | 1 | 200 | | | | 3 |
| Ferguson | | | 3 | 381 | | | 7 | |
| Foley | | | 1 | 200 | | | 2 | 3 |
| Hagerman | | | | | 1 | 3 | | 1 |
| Humphry | | | 8 | 774 | 1 | 2 | 6 | 1 |
| Monteith | | | 1 | 100 | | | 1 | 3 |
| McConkey | | | | | | | | |
| McDougall | | | 1 | 147 | 1 | 8 | 1 | 3 |
| McKenzie | | | 1 | 155 | | | | 1 |
| McKellar | | | | | 1 | 18 | | 2 |
| Shawanaga | | | 4 | 620 | | | 6 | |
| Wilson | | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Chapman | | | 3 | 499 | 124 | 4 | 8 |
| Croft | | | 2 | 280 | 3 24 | 6 | 3 |
| Ferrie | | | 1 | 195 | | | 1 |
| Gurd | | | 7 | 1,093 | | 4 | 9 |
| Lount | | | | | | | 5 |
| Machar | Parry Sound | S. G. Best, Maganetawan | 3 | 398 | | 8 | 4 |
| Mills | | | 3 | 518 | | 4 | |
| Pringle | | | | | | | |
| Ryerson | | | 3 | 400 | 3 23 | 7 | 10 |
| Spence | | | 2 | 250 | | 2 | 4 |
| Strong | | | 5 | 607 | | 6 | 6 |
| Armour | | | 3 | 230 | | | 2 |
| Bethune | | | 3 | 456 | 1 8 | 4 | 1 |
| Joly | | | 1 | 100 | | 8 | 4 |
| McMurrich | Parry Sound | E. Handy, Emsdale | 1 | 100 | | 3 | 2 |
| Perry | | | 3 | 311 | | 5 | 4 |
| Proudfoot | | | 4 | 491 | | 1 | 1 |
| Hardy | | | 1 | 200 | | | 1 |
| Himsworth | | | 9 | 1,339 | | 6 | 5 |
| Laurier | Parry Sound | J. S. Scarlett, Powassan | 16 | 2,701 | 4 285 | 16 | 2 |
| Nipissing | | | 1 | 165 | | 2 | 3 |
| Patterson | | | 2 | 297 | | | |
| Anson | | | 1 | 200 | | 1 | 1 |
| Glamorgan | | | 8 | 923 | | 8 | 3 |
| Hindon | | | | | | | |
| Lutterworth | Haliburton | Wm. Fielding, Minden | 2 | 200 | | 1 | 2 |
| Minden | | | 7 | 675 | | 9 | 1 |
| Stanhope | | | 1 | 98 | | | 1 |
| Snowdon | | | 2 | 200 | | 4 | 4 |
| Anstruther | Peterborough | | 3 | 300 | | 3 | 1 |
| Chandos | do | | 4 | 418 | | 2 | 3 |
| Cardiff | Haliburton | D. Anderson, Apsley | 4 | 412 | 1 6 | 1 | 4 |
| Monmouth | do | | 4 | 600 | | 5 | |
| Cavendish | Peterborough | | 4 | 591 | | | |
| Galway | do | | 11 | 1,290 | | 5 | 3 |
| Bangor | Hastings | C. R. Stewart, Haliburton | 2 | 303 | 1 3 | 2 | 3 |
| McClure | do | | | | | | |
| Wicklow | do | | | | | | |
| Carlow | | | | | | | |
| Cashel | | | | | | | |
| Dungannon | | | 4 | 394 | 1 45 | 3 | 6 |
| Faraday | | | 11 | 1,421 | | 12 | 6 |
| Herschel | Hastings | J. R. Tait, L'Amable | 9 | 1,133 | | 8 | 3 |
| Limerick | | | 6 | 678 | | 6 | 2 |
| Mayo | | | | | | 2 | |
| Monteagle | | | 7 | 1,124 | | 9 | 4 |
| Wollaston | | | 2 | 199 | | 4 | 4 |

APPENDIX No. 9.—*Continued.*

Return of the number of locatees and of acres located, etc.

| TOWNSHIP. | DISTRICT OR COUNTY. | AGENT. | Number of persons located. | Number of acres located. | Number of purchasers. | Number of acres sold. | Number of lots the locations of which have been cancelled. | Number of patents issued. |
|---|---|---|---|---|---|---|---|---|
| Abinger | Addington | G. W. Dawson, Plevna | 1 | 96 | | | | |
| Denbigh | do | | 1 | 204 | 1 | 4 | 2 | 7 |
| Canonto, South | Frontenac | | | | | | | 2 |
| do North | do | | | | | | | |
| Clarendon | do | | 3 | 252 | | | | 11 |
| Miller | do | | 2 | 399 | | | 4 | 2 |
| Palmerston | do | | | | | | | 3 |
| Algona, North | Renfrew | James Reeves, Eganville | 1 | 200 | | | | |
| do South | | | | | | | | 1 |
| Brougham | | | 12 | 1,501 | | | | 2 |
| Grattan | | | 1 | 42 | | | | 7 |
| Hagarty | | | 2 | 200 | | | | 3 |
| Richards | | | | | | | | |
| Wilberforce | | | 1 | 100 | | | | 7 |
| Brudenell | Renfrew | John Whelan, Brudenell | 1 | 150 | | | 5 | 2 |
| Griffith | | | | | | | | 1 |
| Lyndoch | | | 2 | 150 | | | 1 | 1 |
| Matawatchan | | | | | | | 2 | 2 |
| Radcliffe | | | | | | | 2 | 1 |
| Raglan | | | 4 | 400 | | | 4 | 11 |
| Sebastopol | | | 2 | 229 | | | 3 | 7 |
| Sherwood | | | 2 | 300 | 1 | 200 | 3 | 7 |
| Alice | Renfrew | James Stewart, Pembroke | 5 | 517 | 1 | 9 | 3 | 4 |
| Buchanan | | | 4 | 530 | 1 | 100 | 3 | 4 |
| Fraser | | | 2 | 181 | | | 1 | 1 |
| Head | | | 2 | 400 | | | | |
| Maria | | | | | | | | |
| McKay | | | | | | | | |
| Petewawa | | | 1 | 198 | 2 | 198 | | 10 |
| Rolph | | | 1 | 79 | | | | |
| Wylie | | | 1 | 86 | | | | 1 |
| Cameron | | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Bonfield | Nipissing | B. J. Gilligan, Mattawa | 8 | 941 | | 6 | 8 |
| Calvin | | | 11 | 1,191 | 3 | 9 | 7 |
| Ferris | | | 12 | 1,313 | | 3 | 4 |
| Mattawan | | | | | | | |
| Papineau | | | 4 | 300 | | 3 | 1 |
| Korah | Algoma | Wm. Turner, Sault Ste. Marie | 1 | 160 | | 1 | 2 |
| Parke | | | | | | | |
| Prince | | | 3 | 315 | | 3 | |
| Plummer | Algoma | W. L. Nichols, Thessalon | | | 1 | 38 | 1 |
| St. Joseph's Island | Algoma | G. Hamilton, Richard's Landing | 19 | 2,186 | 2 | 115 | 11 | 8 |
| Crooks | Thunder Bay | J. F. Ruttan, Port Arthur | | | | | |
| Dawson Road | | | | | | | |
| Oliver | | | | | | | 4 |
| Paipoonge | | | | | | | 3 |
| Atwood | Rainy River | R. J. F. Marsh, Rainy River | 3 | 437 | | 2 | |
| Blue | | | | | | | |
| Curran | | | | | | | |
| Dilke | | | 11 | 1,494 | 4 | 5 | |
| Morley | | | 12 | 1,592 | 3 | 2 | |
| Nelles | | | 1 | 160 | | 1 | |
| Patullo | | | 3 | 480 | 1 | 40 | |
| Roseberry | | | 1 | 52 | | 2 | |
| Shenston | | | 3 | 400 | | | |
| Tait | | | | | | | |
| Worthington | | | 2 | 268 | 1 | 14 | |
| Aylsworth | Rainy River | Wm. Wilson, Fort Francis | 3 | 411 | 1 | 2 | 4 |
| Barwick | | | 2 | 213 | 1 | 2 | 1 |
| Crozier | | | 7 | 1,056 | 3 | 164 | 4 |
| Devlin | | | 3 | 480 | 1 | 80 | |
| Lash | | | 1 | 160 | 1 | 220 | |
| McIrvine | | | | | | | 1 |
| Roddick | | | 1 | 92 | 1 | 50 | 1 |
| Woodyatt | | | 4 | 411 | 1 | 141 | 3 |
| | | | 461 | 59,733 | 62 | 3,354 | 396 | 352 |

JOSEPH J. MURPHY,
Clerk in Charge.

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, December 31st, 1892.

## APPENDIX No. 10.

## FISHERY OVERSEERS,

UNDER THE ONTARIO FISHERIES ACT.

| Name. | District. | Post Office Address. | Salary. |
|---|---|---|---|
| John H. Willmott | Muskoka District | Beaumaris | $50 per annum. |
| Francis James Moore | Peterborough, Victoria and Haliburton | Lakefield | 75 " |
| Norman Clark | Lanark and parts of Frontenac and Addington | Mississippi Station | 50 " |
| John T. Little | Part of Algoma District | Iron Bridge | 50 " |
| Samuel Robert McKewen | Manitoulin Island | Tehkummah | 50 " |
| Benjamin McDermott | Parry Sound | Sundridge | 50 " |
| Robert R. Smith | Renfrew County | Eganville | 50 " |
| William McKirdy | River and Lake Nepigon and tributaries | Nepigon | 50 " |
| Joseph Whalen | Thunder Bay District | Port Arthur | |
| John Emmons | Rainy River District | Rat Portage | 50 " |
| John A. Johnson | Parts of Parry Sound and Muskoka | Parry Sound | 200 " |
| Justus B. Smith | Charleston Lake | Charleston | |
| Peter McCann | Thames River and Waters' tributary | London | 50 " |
| S. A. Huntington | Lake Nipissing, etc | North Bay | 100 " |
| H. K. Smith | Hastings County | Belleville | |
| Duncan Bole | Algoma District | Sault Ste. Marie | 100 " |
| Lester Sly | Parts of Frontenac and Leeds | Morton | 50 " |
| George Bilton | Parts of Frontenac and Leeds | Newborough | 50 " |
| A. E. Sliter | Gananoque River and Lakes | Morton | 50 " |

A. KIRKWOOD.

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 31st December, 1892.

## APPENDIX No. 11.

Statement of the number of letters received and mailed by the Department in 1890, 1891 and 1892.

| Years. | Sales and Free Grants. | Accounts. | Surveys. | Woods and Forests. | Colonization Roads. | Totals. | Names indexed. | Enclosures. | Orders in Council. | Returned Letters. | Mailed from Department. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1890 | 6,954 | 1,444 | 2,486 | 4,272 | 2,679 | 17,837 | 24,000 | 34,000 | 24 | 25 | 21,022 |
| 1891 | 7,068 | 929 | 2,432 | 5,862 | 2,086 | 18,385 | 24,600 | 34,600 | 51 | 16 | 28,292 |
| 1892 | 6,649 | 1,014 | 2,558 | 6,389 | 1,721 | 18,331 | 24,600 | 34,600 | 53 | 16 | 28,988 |

AUBREY WHITE,
Assistant Commissioner.

CHARLES S. JONES,
Registrar.

Department of Crown Lands,
Toronto, 31st December, 1892.

## APPENDIX No. 12.

Statement of Municipal Surveys confirmed during the year 1892.

| No. | Name of Surveyor. | No. | Date of instruction. | Description of Survey. | Date when confirmed. |
|---|---|---|---|---|---|
| 1 | William M. Davis ..... | 573 | 19th June, 1891..... | To survey the road allowance between the 2nd and third concessions of the township of Dunwich, opposite lots numbers 13 and 14, and to mark the same by stoné or iron monuments ..... ..... | 6th October, 1892. |
| 2 | John Stewart..... | 584 | 7th September, 1892 .... | To survey portions of the 3rd and 4th concession line, Rideau front of the township of Nepean, from base line between the Ottawa and Rideau fronts, southerly to lot number 22, or wherever the concession line can be found, and from lot number 15 southerly to the town line, and to mark the road allowance between said concessions by permanent stone or iron boundaries..... .. ..... | 10th December, 1892. |

AUBREY WHITE,
Assistant Commissioner.

GEORGE B. KIRKPATRICK,
Director of Surveys.

Department of Crown Lands,
Toronto, December 31st 1892.

## APPENDIX No. 13.

Statement of Municipal Surveys for which instructions were issued during the year 1892.

| No. | Name of Surveyor. | No. | Date of Instructions. | Description of Survey. | Date when Confirmed. |
|---|---|---|---|---|---|
| 1 | John H. Moore..... | 577 | 4th February, 1892 .... | To survey that part of concession line between the 4th and 5th concessions of the township of Montague, from the original post at lots 2 and 3, westerly to the nearest point where the concession line can be established, and to mark the same by permanent stone or iron monuments..... | ..... .... |
| 2 | Chas. E. Fitton..... | 578 | 8th April, 1892 ..... | To survey the road allowance between the north halves of lots numbers 15 and 16th in the 9th concession of the township of Flos, and to plant stone or iron monuments to define each side of said road allowance..... | ..... |
| 3 | F. W. Wilkins ..... | 579 | 30th May, 1892 ..... | To survey the concession lines and side road lines or other original allowances for road upon, through or adjoining lots numbers 13, 14 and 15 in the 11th concession of the township of North Monaghan, and to mark the same by permanent stone or iron monuments.. | ..... ..... .. . |
| 4 | John H. Moore..... | 580 | 4th August, 1892 ..... | To survey the boundary line between the townships of Ramsay and Packenham, across the 9th concession, and to plant permanent stone or other durable monuments at the east and west ends of said concession in said township, and such other portions of said boundary as may be necessary..... | ..... |
| 5 | Isaac Traynor ..... | 581 | 4th August, 1892 ..... | To survey lots numbers 26 and 27 in the 21st and 22nd concessions of the township of Egremont, and to plant stone or other permanent monuments at the front and rear ends of the limits of said lots in said concessions ..... | ..... |
| 6 | C. A. Biggar .... .... | 582 | 4th August, 1892 ..... | To survey the line between the 11th and 12th concessions of the township of Winchester, and to mark said line by permanent stone or iron monuments ..... | ..... |

APPENDIX No. 13.—*Concluded.*

Statement of Municipal Surveys for which instructions were issued during the year 1892.

| No. | Name of Surveyor. | No. | Date of Instructions. | Description of Survey. | Date when Confirmed. |
|---|---|---|---|---|---|
| 7 | Jas. W. Tyrrell..... | 583 | 4th August, 1892 ..... | To survey the boundary line on the south end of block number 2, in the 3rd concession of the township of Binbrook, and to plant permanent stone or iron monuments ..... | ..... |
| 8 | John Stewart... ..... | 584 | 7th September, 1892 ... | To survey portions of the 3rd and 4th concession line, Rideau front, of the township of Nepean, from base line between the Ottawa and Rideau fronts, southerly to lot number 22 or wherever the concession line can be found, and from lot number 15 southerly to the town line, and to mark the road allowance between said concessions by permanent stone or iron boundaries ..... | 10th December, 1892. |
| 9 | D. R. Brown ..... | 585 | 28th September, 1892 .. | To survey the road allowance between concessions 11 and 12 in the township of Finch, from the western boundary of said township across lots numbers 1, 2 and 3 to an established post between lots 3 and 4 in the 12th concession, and to mark the road allowance on each side thereof by permanent stone or iron monuments..... | ..... |

AUBREY WHITE,
Assistant Commissioner.

GEORGE B. KIRKPATRICK,
Director of Surveys.

Department of Crown Lands,
Toronto, 31st December, 1892.

## APPENDIX No. 14.

Statement of Crown Lands Surveys completed and closed during the year 1892.

| No. | Date of Instructions. | Name of Surveyor. | Description of Survey. | Amount paid. | No. of acres. |
|---|---|---|---|---|---|
| 1 | May 19, 1891 | Alex. Niven | Base and Meridian lines in District of Rainy River | $880 00 | |
| 2 | " 26, " | J. W. Fitzgerald | Township of Clancey | 436 76 | 57,668 |
| 3 | June 18, " | H. R. McEvoy | " Bastedo | 580 44 | 28,292 |
| 4 | " 18, " | D. L. Sanderson | " Dunlop | 893 48 | 22,764 |
| 5 | " 18, " | E. J. Rainboth | " Vernon | 601 11 | 22,873 |
| 6 | " 18, " | J. S. Laird | " Gorham | 609 11 | 37,273 |
| 7 | " 18, " | B. J. Saunders | " Ware | 814 28 | 40,204 |
| 8 | July 10, " | Elihu Stewart | Certain parts of township outlines in the District of Algoma | 34 85 | |
| 9 | August 31, " | H. B. Proudfoot | Re-survey of part of the town plot of Alberton | 173 96 | |
| 10 | September 3, " | Jas. Dickson | Inspection of surveys, 1891 | 314 91 | |
| 11 | January 14, 1892 | H. B. Proudfoot | Survey of lakes in Thunder Bay district | 2,435 11 | |
| 12 | May 23, " | Alex. Niven | " base and meridian lines, Rainy River district | 4,120 00 | |
| 13 | " 26, " | Jas. W. Fitzgerald | Township of Master | 4,189 71 | 59,853 |
| 14 | June 3, " | T. B. Speight | " Bigelow | 1,599 08 | 22,844 |
| 15 | " 20, " | Elihu Stewart | " Falconbridge | 1,612 24 | 23,032 |
| 16 | " 20, " | " " | " Maclennan | 1,593 48 | 22,764 |
| 17 | " 20, " | James Warren | " Street | 1,621 62 | 23,166 |
| 18 | " 20, " | Davis & Griffin | " Scadding | 1,589 49 | 22,707 |
| 19 | " 29, " | John McAree | Parts of township outlines along C. P. R. in Algoma district | 1,700 00 | |
| 20 | " 29, " | Alex. Baird | Township of McLaren | 1,628 83 | 23,269 |
| 21 | " 29, " | Lewis Bolton | " Gough | 1,640 45 | 33,435 |
| 22 | July 5, " | W. K. Burke | " Thistle | 1,983 59 | 28,337 |
| 23 | " 4, " | David Beatty | Survey of timber berths 28, 29, 36, 37, 66, 137, 136, 143, and Proctor | 1,641 26 | |
| 24 | | Edmund Seager | Surveys near Rat Portage | 315 52 | |
| 25 | | Wm. Galbraith | Timber berths, Humboldt, Carlyle and Goschen, and Block A. at N. Wangle, of Finlayson | 1,360 13 | |
| 26 | | J. F. Whitson | Timber berth at Pogamasing Lake | 95 70 | |
| 27 | | H. B. Proudfoot | Survey of height of land between Wabigoon and Turtle Lakes | 70 05 | |
| 28 | | A. Niven | " certain section lines in Morley | 110 98 | |
| 29 | | S. Malcolm | Valuation of lands at Pointe aux Pins | 285 25 | |
| 30 | | M. J. Butler | Expenses *re* Kennebec survey | 22 50 | |
| 31 | | F. L. Foster | Preparing sketch of channel, St. Clair River | 5 00 | |
| 32 | | G. B. Kirkpatrick | Expenses *re* investigation Rainy River claims at Rat Portage | 293 50 | |
| 33 | | J. F. Whitson | Drawing maps | 1,200 00 | |
| 34 | | | Toronto Lithographic Co., printing maps | 451 50 | |
| 35 | | | The Copp Clark Co., printing maps to accompany report of Bureau of Mines | 1,182 35 | |
| | | | | $38,086 24 | 468,481 |

GEORGE B. KIRKPATRICK, Director of Surveys.

AUBREY WHITE, Assistant Commissioner.

Department of Crown Lands, Toronto, 31st December, 1892.

## APPENDIX No. 15.

Statement of Crown Lands Surveys in progress and amounts advanced up to date, during the year 1892

| No. | Date of Instructions. | Name of Surveyor. | Description of Survey. | Amount advanced. | — |
|---|---|---|---|---|---|
| | | | | $ c. | |
| 1 | June 27, 1892 | B. J. Saunders | Township of Booth | 2,000 00 | |
| 2 | July 4, " | H. B. Proudfoot | " Spohn | 1,800 00 | |
| 3 | October 11, " | Jas. Dickson | Inspection of surveys, 1892 | 800 00 | |
| 4 | | " | Expenses *re* Forest and Park reservation | 130 00 | |
| 5 | | | Copp Clark & Co., on account printing maps | 400 00 | |
| | | | | 5,130 00 | |

GEORGE B. KIRKPATRICK,
Director of Surveys.

AUBREY WHITE,
Assistant Commissioner.

Department of Crown Lands,
Toronto, 31st December, 1892.

## APPENDIX No. 16.

Statement of Mineral Lands which have been patented in unsurveyed territory in the districts of Thunder Bay, Algoma, and Nipissing during the year 1892.

| No. | No. of Description. | Patentees. | Designation of Mining Tract. | Acres. | Amount. | Date of Patent. |
|---|---|---|---|---|---|---|
| | | | | | $ c. | |
| 1 | 2962 | A. M. Stearne & Geo. Weatherby .... | Mining location R. 521 east coast of Black Bay, Lake Superior. | 150 | 300 00 | 22nd January, 1892. |
| 2 | 2972 | G. Smith, H. B. Poulton, C. G. Richardson and Jas. S. Lockie .... | " " McA 2, on Rabbit Lake, east of Lake Wahnapitae. | 41 | 82 00 | 11th March, 1892. |
| 3 | 2976 | Benjamin W. Folger ..... | W 230, W 231, W 232, south of township of Moss .... | 244 | 488 00 | 9th May, 1892. |
| 4 | 2977 | Christopher Crites ..... | R J 2, east of Proudfoot's meridian line, Nipissing..... | 40 | 100 00 | 2nd June, 1892. |
| 5 | 2978 | William K. Moore .... ..... | W D 19, east of Proudfoot's meridian line, Nipissing..... .... | 40 | 100 00 | 2nd June, 1892. |
| 6 | 2983 | G. T. Ware & C. H. Werner..... | 95x125x126x north of Arrow Lake ..... | 762 | 1,524 00 | 6th July, 1892. |
| 7 | 2983½ | R. H. Cooke .... ..... | West ½ of 66E, north of Schrieber Station..... | 40 | 120 00 | 15th September, 1892. |
| 8 | 2987 | N. Palanqnin..... | W D 43, Matagamasing Lake, east of Wahnapitæ Lake. ..... | 26 | 65 00 | 1st November, 1892. |
| 9 | 2988 | B. G. Hamilton ..... | R 499, R 490, R 509, on Mattawin River, west of Conmee ..... | 287 | 574 00 | 1st November, 1892. |
| 10 | 2989 | G. W. Shaw..... ..... | R 523, R 524, R 525, south of Lybster ..... | 160 | 480 00 | 1st November, 1892. |
| 11 | 2991 | A. Charlebois & A. Mondoux. .... .. | W. R. 34, W. R. 35, east of the township of Scadding .... .... | 76 | 190 00 | 31st October, 1892. |
| 12 | 2992 | G. E. Ollerhead ..... | R 479, on Mattawin River, west of township of Conmee..... | 82 | 164 00 | 31st October, 1892. |
| 13 | 2993 | H. Blain & A. B. Lee..... ..... | 171x, Gun Flint Lake..... | 182 | 546 00 | 5th November, 1892. |
| 14 | 2994 | Ferdinand Perras..... ..... | W R 40, east of Boland Lake, east of Wahnapitæ Lake ..... | 18 | 45 00 | 5th November, 1892. |
| | | | | 2148 | 4,778 00 | |

GEORGE B. KIRKPATRICK,
Director of Surveys.

AUBREY WHITE,
Assistant Commissioner.

Department of Crown Lands,
Toronto, 31st December, 1892.

## APPENDIX NO. 17.

Statement of Lands which have been patented in unsurveyed territory in the District of Rainy River, during the year 1892.

| No. | No. of Description. | Patentees. | Designation of Land. | Acres. | Amount. | Date of Patent. |
|---|---|---|---|---|---|---|
| | | | | | $ c. | |
| 1 | 151 | D. C. Cameron & H. W. Kennedy | Mill location at Norman | 33 | 330 00 | 8th January, 1892. |
| 2 | 152 | J. W. Brereton | 155P on Coney Island, Lake of the Woods | 1 86-100 | 10 00 | 7th " " |
| 3 | 153 | Joseph LaCourse | 371P east of Rat Portage | 10 | 20 00 | 6th " " |
| 4 | 154 | Margaret Gregg | Grigg location at Keewatin | 2 | 20 00 | 8th " " |
| 5 | 155 | Andrew Simpson | Simpson location, north of C.P.R. track, Keewatin | 1 | 10 00 | 22nd " " |
| 6 | 156 | A. Benson & Geo. Swanson | 372P east of Indian Reserve 38B, Lake of the Woods | 34 | 136 00 | 21st " " |
| 7 | 157 | Charles S. Morris | X33 Pine Portage Bay, " | 80 | 160 00 | 3rd February, " |
| 8 | 158 | Dumas Harrison | 369P east of Western Lumber Coy's. location, Rat Portage | 3 | 15 00 | 9th " " |
| 9 | 159 | A. H. Feghely | 367P " " " " | 1 | 5 00 | 15th " " |
| 10 | 160 | John Mather | 358P an Island in Portage Bay, Keewatin | 4 | 20 00 | 15th " " |
| 11 | 161 | Thos. L. Peters | 363P, 364P west of Treaty Island, Lake of the Woods | 2 75-100 | 13 00 | 27th " " |
| 12 | 162 | H. W. Kobold | 368P east of Western Lumber Coy's. location, Rat Portage | 7 | 35 00 | 29th " " |
| 13 | 163 | W. R. Dick & M. Banning | 52P, 52PA, 54P islands west of Coney Island | 45 40-100 | 230 00 | 15th March, " |
| 14 | 164 | Geo. Drewry | 270P an island, east of Coney Island | 2 | 10 00 | 15th " " |
| 15 | 165 | John P. Donnelly & J. W. Cousins | K65 an island west of Yellow Girl Point, Lake of the Woods | 49 | 98 00 | 14th " " |
| 16 | 167 | J. C. McKay & B. M. Fitzgerald | IX1 near Pipestone point, " " | 27 50 100 | 55 00 | 11th April, " |
| 17 | 168 | J. Galt, G. W. Allan & A. M. Nanton | K 129 an island s w of Bare point, " " | 49 | 245 00 | 16th " " |
| 18 | 169 | A. Nelson & E. Seager | 272P, 272PA islands in Pine Portage Bay, " " | 2 10-000 | 40 00 | 13th " " |
| 19 | 171 | James Fraser | Frasers location, north of C.P.R. track, Keewatin | 1 25-100 | 12 00 | 11th May, " |
| 20 | 172 | F. M. Fortier | 361P, 362P islands south of Coney Island, Lake of the Woods | 1 89-100 | 13 00 | 10th " " |
| 21 | 173 | Lake of the Woods Milling Co. | 200P, 200PA, 200PB, 200PC Keewatin | 12 | 120 00 | 10th " " |
| 22 | 174 | F. Campbell | K9 south-east of Rat Portage | 89 50-100 | 179 00 | 23rd June " |
| 23 | 175 | James R. Waghorn | 55P, 58P, islands south-west and west of Coney Island | 7 52-100 | 40 00 | 23rd " " |
| 24 | 176 | S. S. Scovil | 352P on easterly side of Coney Island, Lake of the Woods | 3 | 30 00 | 24th " " |
| 25 | 177 | H. H. Beck | 74P, an island west of the Devil's Gap, " " | 3 | 15 00 | 22nd " " |
| 26 | 178 | Keewatin Lumbering and Manf'g. Co. | Two blocks of land on the northerly side of Coney Island, Lake of the Wood | 13 | 58 00 | 22nd " " |
| 27 | 179 | H. S. Wesbrook | 359P on north side of Coney Island, Lake of the Woods | 3 | 30 00 | 24th " " |
| 28 | 180 | H. H. Beck | 365P, an inland west of the Devil's Gap, " " | 30-100 | 5 00 | 22nd " " |
| 29 | 181 | F. L. Patton | K131, an island south-west of Bare Point, " " | 8 50-100 | 42 00 | 22nd " " |
| 30 | 182 | John H. Webster | 73P, an island west of Devil's Gap, " " | 4 25-100 | 21 00 | 21st " " |
| 31 | 183 | E. O. Biggs | 370P on easterly side of Coney Island, " " | 1 80-100 | 18 00 | 24th " " |
| 32 | 184 | W. A. Black | 69P, an island south-west of Coney Island " " | 23 | 115 00 | 21st " " |
| 33 | 185 | John P. Larkin & H. Wright | 375P, an island west of Devil's Gap, " " | 2 20-100 | 11 00 | 21st " " |
| 34 | 186 | William Fenn | 53P, an island west of Coney Island, " " | 1 25-100 | 6 00 | 21st " " |
| 35 | 187 | F. M. Wade | K145, or Keewatin Island, " " | 3 | 15 00 | 30th " " |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 36 | 188 | W. Ross, R. Hall and M. Brown | 227P at Norman, Rat Portage | 21 | | 210 00 | 30th June, | 1892. |
| 37 | 189 | S. S. Scovil | 400P, near Pine Portage Bay, Lake of the Woods | 40 | | 120 00 | 7th July | " |
| 38 | 190 | G. W. Allan | 392P on north side of Coney Island " " | 6 | 80-100 | 68 00 | 15th " | " |
| 39 | 191 | James McLaughlin | 144K, an island opposite Bulmer's location " | 8 | 50-100 | 42 00 | 7th " | " |
| 40 | 192 | William Laird | 396P on south side of Coney Island, Lake of the Woods | 8 | 50-100 | 85 00 | 7th " | " |
| 41 | 193 | John H. Munson | 393P on north side of Coney Island, " | 5 | 80-100 | 58 00 | 15th " | " |
| 42 | 194 | Henry Edward Philpott | 397P " " " | 10 | 16-100 | 101 00 | 20th " | " |
| 43 | 195 | John H. Munson & G. W. Allan | 407P " " " | 2 | 73-100 | 27 00 | 20th " | " |
| 44 | 196 | W. R. Ross | 408P on Coney Island, " | 19 | 68-100 | 196 00 | 27th " | " |
| 45 | 198 | P. L'Heureux | K146, an island in Rat Portage Bay, " | 2 | | 10 00 | 3rd August, | " |
| 46 | 199 | C. S. Lott | 398P, 398PA, 399P, islands in Rat Portage Bay, " | 9 | 74-100 | 52 75 | 2nd September | " |
| 47 | 200 | M. J. Campbell | K150, an island, south-west of Wiley's point, " | 9 | | 27 00 | 14th " | " |
| 48 | 200½ | B. M. Fitzgerald | 411P on Coney Island, " | 3 | | 30 00 | 20th " | " |
| 49 | 201 | J. H. Webster & E. A. Angell | 409P, near Pine Portage Bay, " | 40 | | 120 00 | 9th " | " |
| 50 | 201½ | Hugh Pedley | 414P on north-westerly end of Coney Island, " | 9 | 20-100 | 92 00 | 20th " | " |
| 51 | 202 | S. S. Scovil | 412P and addition to 400P, north east of Pine Portage Bay | 46 | | 138 00 | 14th " | " |
| 52 | 202½ | W. Hespeler | 402P on south-westerly point of Coney Island | 7 | 25-100 | 72 50 | 20th " | " |
| 53 | 203 | A. M. Nanton | 401P on south-west point of Coney Island | 7 | | 70 00 | 20th " | " |
| 54 | 204 | J. B. Wilson, J. Leng, F. B. McManus | K92, east and adjoining Ind. Reserve, 38B Lake of the Woods | 64 | | 128 00 | 14th " | " |
| 55 | 205 | F. J. Clarke | 418P on Tunnel Island, Lake of the Woods | 18 | 50-100 | 106 00 | 21st " | " |
| 56 | 206 | Thos. L. Peters | 415P on Coney Island, " | 4 | 25-100 | 42 00 | 1st November, | " |
| 57 | 207 | H. W. Kobold and J. W. Humble | 419P on Tunnel Island, " " | 22 | | 110 00 | 2nd " | " |
| 58 | 210 | Henry Bell | 59P, an island in Rat Portage Bay, Lake of the Woods | 13 | | 65 00 | 1st " | " |
| 59 | 211 | Francis L. Patton | 404P, on Coney Island, Lake of the Woods | 9 | 50-100 | 95 00 | 20th October, | " |
| 60 | 212 | C. S. Hoare | 403P, " " " | 7 | 25-100 | 72 00 | 1st November, | " |
| 61 | 213 | William T. Peters | 60P, an island south-west of Coney Island, Lake of the Woods | 29 | | 145 00 | 20th October, | " |
| 62 | 214 | William T. Peters | 70P, " " " | 17 | | 85 00 | 20th " | " |
| 63 | 215 | A. McKenzie Stow | 436P, on Coney Island, Lake of the Woods | 3 | 50-100 | 35 00 | 20th " | " |
| 64 | 216 | J. A. Maughan | 430P, " " " | 10 | 45-100 | 104 00 | 20th " | " |
| 65 | 217 | Laurence H. J. Minchin | 429P, " " " | 9 | 10-100 | 91 00 | 20th " | " |
| 66 | 218 | J. W. Brereton | 420P, an island south of Coney Island, Lake of the Woods | | 3-100 | 5 00 | 29th " | " |
| 67 | 219 | H. W. A Chambre | 421P, an island in Pine Portage Bay, " | 2 | | 10 00 | 20th " | " |
| 68 | 220 | O. Montgomery and W. Nixon | 262P, south of and adjoining Rossland Station | 53 | | 159 00 | 20th " | " |
| 69 | 221 | J. S. Ewart and J. W. Brown | Quarry Island, Lake of the Woods | 80 | | 240 00 | 31st " | " |
| 70 | 222 | Elizabeth P. McDonald | B298P, an island west of Sultana Island, Lake of the Woods | 3 | | 20 00 | 31st " | " |
| 71 | 223 | Chas. W. Chadwick | A298P, " " " | 25 | | 75 00 | 31st " | " |
| 72 | 224 | M. M. Holmes and O. Montgomery | 406P, on south side of Coney Island, " | 12 | 34-100 | 123 00 | 29th " | " |
| 73 | 225 | Frank Gardiner | 405P, " " " | 11 | 68-100 | 116 00 | 29th " | " |
| 74 | 226 | Israel Gagne | K157, an island south of Bare Point, " | 16 | | 48 00 | 31st " | " |
| 75 | 228 | J. M. Macgregor | A13, an island in Clear Water Bay | 12 | | 25 00 | 7th December | " |
| 76 | 229 | B. M. Fitzgerald & Robert Laurenson. | 370P, east of and adjoining Western Lumber Co's. location, Rat Portage | 5 | | 25 00 | 12th " | " |
| 77 | 230 | Isaac Wait | 366P, east of and adjoining Western Lumber Co's. location, Rat Portage | | 50-100 | 5 00 | 12th " | " |
| 78 | 232 | Vine D. Simar | 442P, on Hay Island, Lake of the Woods | 55 | | 165 00 | 21st " | " |
| 79 | 233 | Chas. A. Moore | 444P, on west side of Middle Island, Lake of the Woods | 42 | | 126 00 | 21st " | " |
| 80 | 234 | Levi R. Mackay | Menzies Island, Lake of the Woods | 60 | | 60 00 | 21st " | " |
| 81 | 235 | Ernest L. Heureux | K158, an island west of Coney Island, Lake of the Woods | | 25-100 | 5 00 | 22nd " | " |
| 82 | 236 | F. T. Griffin | 422P, " south " " | 5 | | 25 00 | 22nd " | " |
| 83 | 237 | John Grisdale | 362PA, " " " " | | 28-100 | 5 00 | 30th " | " |
| 84 | 238 | Albert B. Upton | 136P, on Andrew Bay, Lake of the Woods | 151 | | 453 00 | 28th " | " |

APPENDIX No. 17.—*Concluded.*

Statement of Lands which have been patented in unsurveyed territory in the District of Rainy River, during the year, 1892.

| No. | Patentees. | Patentees. | Designation of Land. | Acres. | Amount. | Date of Patent. |
|---|---|---|---|---|---|---|
| | | | | | $ c. | |
| 85 | 239 | E. Gibbins and H. Rideout | 147E, or Minnesabic Island, Lake of the Woods | 5 | 10 00 | 30th December, 1892. |
| 86 | 240 | E. Gibbins | F18, an island in Bigstone Bay, " | 29 | 58 00 | 30th " " |
| 87 | 241 | E. Gibbins and Geo. Heenan | Copper Island, " " | 22 50-100 | 45 00 | 30th " " |
| 88 | 242 | Essie Gibbins | 10K1, 10K2, islands in Bigstone Bay, Lake of the Woods | 10 | 20 00 | 30th " " |
| 89 | 243 | J. M. Savage | 413P, part of an island north of Devil's Gap, " | 6 50-100 | 32 50 | 30th " " |
| 90 | 244 | Geo. Swanson and A. Benson | 395P, south of Rossland Station | 40 | 120 00 | 30th " " |
| 91 | 245 | A. Woods and J. W. Humble | K153, K154, K155 and K156, on Breakneck Lake, east of Rat Portage | 108 | 324 00 | 30th " " |
| | | | | 1,752 6-100 | $7,058 75 | |

GEORGE B. KIRKPATRICK,
Director of Surveys.

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 31st December, 1892.

APPENDIX No. 18.

STATEMENT of Patents, etc., issued by the Patents Branch during the year 1892.

| | Number. |
|---|---|
| Crown Lands | 270 |
| School " | 68 |
| Mining " | 37 |
| Public " (late clergy reserves) | 33 |
| Free Grants Lands, A. A. | 64 |
| " " " (under Act of 1880) | 250 |
| Rainy River " | 98 |
| Licenses of occupation | 2 |
| Leases—Mining | 95 |
| " Crown | 2 |
| Total | 919 |

JOHN M. GRANT,
Chief Clerk.

AUBREY WHITE,
Assistant Commissioner.

DEPARTMENT OF CROWN LANDS,
TORONTO, 31st December, 1892.

(*Appendix No. 19.*)

## TOWNSHIP OF SCADDING.

DISTRICT OF NIPISSING.

WOODSTOCK, ONTARIO,
December 31st, 1892.

SIR.—We have the honor to report, that in accordance with your instructions, dated June 20th, 1892, to survey the township of Scadding, in the district of Nipissing, into lots of three hundred and twenty acres each; we proceeded to that township, and began the survey thereof on July 14th.

We left Wahnapitae Station on the Canadian Pacific Railway, with a party of fourteen men all told, and went by way of the Wahnapitae River, making seven short portages before reaching the township of Scadding and made our first camp on Moose island just above the southern boundary.

We began the survey at the south-east angle of the township, at a Tamarac post, marked XL. on the west side, and XXXII. on the east side, and retraced and rechained the line run by P. L. Surveyor Bell, in the year 1885, for the front of the first concession, making each lot forty chains in width, except lot twelve which is forty-six chains fifty-three links wide, the south-west angle of the township being at the Tamarac post described in P. L. S. Bell's notes, and on the projected plan.

The variation of the magnetic needle not being uniform, the compass was generally unreliable, the lines were therefore run by the transit or solar compass.

Through an error in the use of the transit the line in front of the lots nine, ten, eleven and twelve, concession three, was run on a wrong bearing, and was run over again, as shown in the field notes.

The township is well timbered, except the parts overrun by fire, which are grown up with a thick undergrowth of birch, red pine, poplar, etc., the largest being three or four inches in diameter. In the south half of the township most of the good pine has been cut, but in the north half there is a great amount of valuable pine timber standing, especially in the eastern portion of it. This could be got to Wahnapitae Lake without great difficulty.

In the south half of the township, our work was facilitated by a number of roads constructed by the Georgian Bay Lumber Company. The chief of these are shown on the plan, and in the field notes.

The soil in the whole of the township is shallow and stony, and unfit for agriculture, but a number of mining locations have been taken up.

Being compelled by urgent private affairs, to return to Woodstock, before completing the survey, Mr. W. R. Burke, O. L. Surveyor was, with your permission employed by us to run the lines in the sixth concession, and to do most of the traversing, which he did in November, part of the traversing being done on the ice as shown in the field notes.

The distances in the survey of the lakes and river were measured with the micrometer.

We have the honor to be, Sir,
Your obedient servants,

(Sgd) DAVIS & GRIFFIN,
Ontario Land Surveyors.

The Honorable A. S. Hardy,
Commissioner of Crown Lands,
Toronto.

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*(Appendix No. 20.)*

## TOWNSHIP OF STREET.

District of Nipissing,

Walkerton, December 6th, 1892.

Sir,—I have the honor to submit the following report of the survey of the township of Street, in the district of Nipissing, in accordance with instructions from your Department, dated 20th June, 1892.

Proceeding to Markstay Station by the Canadian Pacific Railway, I followed the railway to the east boundary of the township of Awrey, thence north along this boundary to a pine post planted by Ontario Land Surveyor A. Niven at the north-east angle of said township of Awrey; and here commenced my survey at the south-east angle of the township of Street.

I retraced the north boundary of Awrey for the front of my first concession, marking and planting lot posts at every half mile until I reached the south-west angle of my township where a cedar post marks the intersection of the four adjoining townships.

Returning to the south-east angle of Street, I ran due north astronomically to the front of concession six and from this point deflected to east to connect with the tamarac post planted by P. L. S. Wm. Bell to mark the north-east angle of the township of Street. This deflection was made necessary by a surplus in length of the north boundary of Street as previously surveyed.

From the south and east boundaries I then ran the several side lines and concession lines due north and west respectively as per instructions, taking frequent astronomical observations to secure accuracy.

A very small percentage of the whole area may be termed good farm land, the more desirable part for such purposes being to the west of Wahnapitae River and along the valley of Timmins' Creek, the latter containing some tolerably good wild hay or grazing lands.

In the western part the rock is less exposed by reason of a considerable growth of timber. The soil in the valleys consists chiefly of clay loam, but with no large area in any one place.

The eastern part of the township is much broken by low, rocky ridges with occasional patches of swamp and beaver meadow, which may at some time be utilized for grazing lands.

The western half of the township is well timbered with white and red pine, spruce, birch, maple, jack pine, balsam and poplar ; the greater portion of good pine being on lots eight, nine, ten and eleven, in concession five and lots seven, eight, nine, ten and eleven, concession six. Brule about ten or fifteen years old covers the eastern half, the second growth thereon consists of poplar, birch and jack-pine, with here and there, a dead tree of the original pine.

The township is well watered by the Wahnapitae River, Timmins' Creek and numerous springs.

The Wahnapitae River is a fine stream for lumbering purposes, having an average width of two to three chains. Upon this stream on lot nine, concession two there are two falls, well adapted for mill sites. Timmins' Creek, in the north-east part of the township has an average width of about twenty-five links and a depth of two feet. Two miles of this stream were at one time used for driving logs.

The rock is this township is granite and no minerals of value were observed, though the magnetic variation was very irregular—the average I found to be north six degrees and thirty minutes west.

Moose, red deer and beaver were numerous ; smaller game, such as rabbits and partridge also abounded. We found scarcely any fish in the Wahnapitae River.

Herewith I submit plans, field notes of survey with timber plan.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) JAMES WARREN,
Ontario Land Surveyor.

The Honorable A. S. Hardy,
Commissioner of Crown Lands,
Toronto.

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*(Appendix No. 21).*

## TOWNSHIP OF MACLENNAN.

District of Nipissing.

Collingwood, Ontario,
December 8th, 1892.

Sir.—I have the honor to submit the following report of the survey of the township of Maclennan, in the district of Nipissing, surveyed by me under instructions from your Department, dated June 20th, 1892.

The survey was made during the months of September and October.

I commenced my survey at the south-east angle of the township, at a tamarac post, planted by P. L. S. W. Bell, in 1885. This point is also at the corners of the townships of Scadding, Street and Falconbridge, the last of which I had just finished subdividing. I retraced westerly from my starting point the line run by O. L. S. McEvoy in 1886 as the front of my first concession, planting lot posts at regular intervals of forty chains thereon until I reached the south-west angle of the township, where a cedar post had been planted, marked XLVIII. on the east side, and LVI. on the west side. I then ran northerly from my place of beginning on a bearing of N. 0° 22′ W. till I met a cedar post planted by O. L. S. McEvoy in 1888 marked VI. M. on the north boundary of the south half of timber berth 49. I ascertained that the last named bearing would intersect the said VI. M. post by previously running the side line between lots two and three, due north from the south boundary of the township to the said north boundary of the south half of timber berth 49, and ascertaining by chaining on these two boundaries the difference in longitude between the above mentioned posts. The east boundary of the township from the said VI. M. post north, to its termination at Lake Wahnapitae was run on a due-north course. I retraced that portion of my west boundary run by O. L. S. McEvoy in his survey of the outlines of the south half of the above mentioned berth as well as his north boundary of the south half of said berth. The latter boundary line I made the front of my fourth concession by planting my lot posts thereon.

Owing to the south boundary of the township as previously run bearing to the south of west, the depths of the lots in concession one increases towards the west. By an observation taken on this line and at a distance of about three and a-half miles from the east boundary, I found its bearing to be N. 88° 49′ E. I then continued my survey north to Lake Wahnapitae the shore of which I traversed, connecting my traverse lines with the concession and side lines of the township.

The surface of this township is considerably broken by hills and rock ridges. There is some fair land in the southern part of the township, but the greater part of that bordering on the lake and in that neighborhood is not adapted for agriculture, but here are found very promising deposits of nickel ore. Some of these have been partially developed and excellent specimens obtained. A number of mining locations have been laid out in the township, the outlines of which I connected with the posts on my lines. The timber consists of pine, balsam, spruce, cedar, birch and tamarac. The pine is of a very fair quality and in considerable abundance. The southern part has been under operation for some years by the Georgian Bay Lumber Company. In order to reach their work they built a tote road some years ago from Wahnapitae Station to Lake Wahnapitae. During the past season the Government has very much improved it for a distance of seven or eight miles north from the station.

There are several small lakes, mostly near the north-west of the township, and one in the north-east part. The only stream worthy of mention is Massey Creek. It is about forty links wide, flowing northerly into Massey Bay, an arm of Wahnapitae Lake. It is utilized for a short distance by the lumber company in driving their logs to the lake.

A fair estimate of the area of agricultural lands in the township would probably be about forty per cent.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) E. STEWART,
Ontario Land Surveyor.

The Honorable A. S. Hardy,
Comissioner of Crown Lands,
Toronto.

(*Appendix No. 22.*)

## TOWNSHIP OF FALCONBRIDGE.

District of Nipissing.

Collingwood, Ontario,
December 8th, 1892.

Sir.—I have the honor to submit the following report of the survey of the township of Falconbridge, in the district of Nipissing, surveyed by me under instructions from your Department, dated June 20th, 1892.

The survey was made during the months of August and September.

I commenced my survey at the south-east angle of the township, at a cedar post, planted by O. L. S. Niven for the north-west angle of the township of Awrey and retraced the north boundary of Dryden, westward for the front of my first concession, marking and planting lot posts at every half mile till I reached the south-west angle, where I found a balsam post at the corner of the four contiguous townships.

The east boundary having been run by P. L. S. William Bell in 1885, I retraced and chained this line 80.10 chains to a post planted by him and marked one mile.

I then marked and planted a new post beside this one, and from it ran my line between concessions one and two, due-west across the township to its intersection with the adjoining township of Garson. This line I made the basis of my work, and from it continued the work to the north boundary, planting new posts on the east boundary alongside Mr. Bell's mile posts, but showing in my notes my chaining between them. Owing to the south boundary not being run throughout on a due east and west course, the depths of the lots in the first concession are irregular.

I also retraced and chained the east boundary of Garson as my west boundary, as the work proceeded. As will be seen by the notes, my posts and intersecting lines on that boundary vary considerably from those in Garson.

The north boundary of this township, run by O. L. S. McEvoy in 1886, is well cut out and well blazed, but on a course varying considerably from due east and west. By an observation taken on this line and at a distance of about three and a-half miles from the east boundary, I found its bearing to be N. 88° 49′ E. As this line had been run from the east to the west, this error in bearing had the effect of gradually decreasing the depth of lots in the sixth concession of this township towards the west. I found several mining locations laid out in the township, and have connected their outlines with the posts on my lines.

The timber on this township consists of pine, cedar, balsam, spruce, tamarac and birch. The pine is of a very good quality and the quantity before cutting was commenced must have been very large. There is still a fine pine belt towards the north and westerly part of the township. The berth is owned by the Emery Lumber Company, who are operating it in connection with the township of Garson which they also own. This company have a railway in operation for carrying their logs to the Wahnapitae River from those parts of their limits that are not accessible by water. This road is well built, and runs from Wahnapitae Station on the C. P. R. in a north-westerly course, passing through part of Dryden, then across the south-west part of this township into Garson and northerly through the easterly part of Garson to near its north boundary.

There is very little water in the township, Emery Creek, a small tributary of the Wahnapitae River, about fifty links in width, being the only stream worthy of mention. It divides itself near the south boundary of the township and on lot five into two branches, one of which winds southerly through the easterly part of the township, and the other rising in a small lake near the west boundary, flows easterly to join the other branch, as above stated. This stream and both its branches are utilized by the Emery Company in driving their logs to the Wahnapitae.

A very good colonization road has been built during the past season from Wahnapitae station on the C. P. R. through part of Dryden, and northerly into the third concession of this township. It follows the old tote road leading from the railway station to Wahnapitae Lake.

In several places indications of nickel and copper ore were observable, but no large surface show was seen in the township.

The general character of the township is undulating, and in some parts hilly. There is not much bare rock. The soil is a clay and sandy loam, capable of bearing good crops of oats, peas, potatoes, turnips, etc., as is evidenced by those grown by the Emery Company at their depots. I would estimate that fully fifty per cent. of the township would be fit for agricultural purposes.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) E. STEWART,
Ontario Land Surveyor.

The Honorable A. S. Hardy,
Commissioner of Crown Lands,
Toronto.

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(*Appendix No. 23.*)

## TOWNSHIP OF McLAREN.

District of Nipissing.

Leamington, Ontario,
December 14th, 1892.

Sir.—I have the honor to submit the following report of my survey of the township of McLaren, in the district of Nipissing, surveyed under instructions from your Department, dated the 29th June, 1892.

I proceeded from here to Sturgeon Falls *via* railway, where I obtained supplies, canoes and a number of men; thence up Sturgeon River to a timber road along Pike Creek, and thence along this road to the north-west angle of the township of Fell, where I found a cedar post in a cairn of stones, marked on the south-east side "Fell, Con. VI., Lot XII.," and on the north-west side "Thistle, Con. I., Lot I." Retracing from this post eastward, the north boundary of the township of Fell, surveyed in 1891 by O. L. S. Burke, to the north-east angle of the same, where I found the cedar post, in a stone cairn, marked on the south-west side, "Fell, Con. VI., Lot I.," as described in the notes of the north boundary of that township, sent me with my instructions. I then proceeded west and north, planting the posts for the lots at distances of forty chains, and running the lines conforming as closely as possible with the projected plan and instructions.

The accompanying plan of the township and field notes of the survey, showing the lots as laid out, I beg to submit herewith, all of which I trust will be found satisfactory.

The township throughout is very undulating and rocky, more especially the westerly part, where the rocky ridges attain the greatest elevation.

The percentage of land that could be utilized for farming purposes is but small, and is to be found principally in the valleys, and on the low-lying ridges in the east and south portions of the township.

The soil is a reddish sand on the high land, and in the beaver meadows, valleys and swamps, a dark sandy loam.

The timber throughout is principally pine, spruce, tamarac, cedar, birch, poplar and balsam. Small patches of good pine were found in the north-east and south-west

portions of the township, the balance being small and scrubby. The spruce, tamarac and cedar found in the swamps being of a fair size and good, the birch and poplar being also good, and found in considerable quantities.

The township is well watered with lakes and creeks; in the former abound black bass, pike, pickerel and perch.

No economic minerals were found during the survey, the principal rock formation being Huronian.

Moose, red deer, wolf, bear, beaver, mink and otter abound in the township.

Several astronomical observations were taken during the survey, and the variation of the magnetic needle was found to be 8°15′ west.

I have honor to be, Sir,
Your obedient servant,

(Sgd) ALEX. BAIRD,
Ontario Land Surveyor.

The Honorable A. S. Hardy,
Commissioner of Crown Lands,
Toronto.

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(*Appendix No. 24.*)

## TOWNSHIP OF MASTER.

District of Nipissing.

Peterborough, Ontario,
December 5th, 1892.

Sir.—I have the honour to report on the survey of the township of Master, in the Nipissing district, made during the past summer under your instructions, dated May 26th, 1892.

Herewith I also beg to submit the plan and field notes of survey, all of which will, I trust, be found satisfactory.

The township lies immediately east of Guthrie, surveyed by myself two years ago; north of Richards, surveyed in 1862, by Ontario Land Surveyor Robert Hamilton, and part of Burns, surveyed in 1874 by Ontario Land Surveyor T. O. Bolger, and west of townships Fraser and McKay, surveyed in 1855 by Provincial Land Surveyor John Robertson.

The township of Stratton, unsurveyed, lies immediately north of Master.

The north branch of the Pine River, which flows into the Bonnechere River, has its source in the south-west part of the township, and Indian River, flowing into the Ottawa River at Pembroke, has its headwaters in the south-east part.

The waters in the northerly part flow into the south branch of the Petawawa River.

In these, fish of various kinds are plentifully found.

The township has been lumbered over many years ago, as some of the old pine stumps are still met with. At present there is very little, if any, pine of value in the township.

A large area is composed of brulé and covered with young poplar, white birch, etc., etc., the remainder with ordinary bush made up of hemlock, tamarac, spruce, maple, beech, basswood, ironwood, etc.

As might be inferred from the numerous water sources, the general cast of the township is broken and hilly.

This is especially so in the south-west quarter, along the head-water of the Pine River, where at either side rocky ridges and gneiss escarpments crop out.

In the valleys and up the slopes, where not too stony, fair alluvial and sandy soils are found.

The north-west quarter of the township is less broken, and it contains a large proportion of arable land.

The woods are of the same mixed kind, and of average growth.

Towards the north boundary the country improves, more hardwood prevails, and the character of the land also improves, and is reported to extend quite a distance northward into the adjoining township.

The easterly half of the township presents the same general aspects though not quite so hilly or broken.

Scattered over this part, as indeed over most of the township, are tracts of brulé covered with a new growth of mixed bush.

The standing woods are light, and in places withered and charred by fire of recent date.

Several tracts of undulating land, more or less stony at surface and bottom, but of kind and productive soil, when free of stone, are present in the east half of the township.

The soil is generally composed of a sand clay loam, mixed with gravel and stone on the uplands, but in the flats and valleys it is of an alluvial character, and of good depth and fertility.

About twenty per cent. of the land I consider fairly fit for settlement.

Moose and deer have been seen in the township, and it is said are increasing in number since the game protection laws have been put into operation.

There are some very old unoccupied lumber buildings and a clearance of about thirteen acres on Lot 27, Con. XIII., known as "Cormier's Old Depot." The soil is sandy loam, tolerably free of stone and of fair quality.

Owing to lapse of time, bush fires and other causes since the lines were surveyed, I experienced some difficulty in tracing the south and east boundaries of the township.

The only side line found in Richards is that between lots 15 and 16.

On the east boundary the boundary-line between the townships of Fraser and McKay was found. The other two surveyed concession lines were not found.

Trusting that these returns will be found satisfactory,

I have honor to be, Sir,
Your obedient servant,

(Sgd) J. W. FITZGERALD,
Ontario Land Surveyor.

The Honorable A. S. Hardy,
Commissioner of Crown Lands,
Toronto.

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(*Appendix No. 25.*)

## TOWNSHIP OF THISTLE.

District of Algoma.

Ingersoll, Ontario,
October, 5, 1892.

Sir.—I have the honor to report the completion of the survey of the township of Thistle, in the district of Nipissing, performed under your instructions of the 5th day of July, 1892.

I beg also to submit the field notes and plan of the township, all of which I trust will be also satisfactory.

I proceeded *en route* to Sturgeon Falls, where I procured men, canoes and supplies, and from there with thirteen of a party up the Sturgeon River, to J. R. Booth's depot, thence following an old timber road through part of the township of Field, and across the

township of Bastedo, bringing everything with us, canoes, etc., and camping near the north-east corner of the latter township. I commenced my survey as instructed, at a cedar post planted by O. L. S. Niven in 1881, which marks north-east corner of Bastedo and the north-west corner of Fell.

The south and east boundaries of this township had been run by O. L. S. McEvoy in 1891, and O. L. S. Niven in 1881 respectively, but being completely grown up again with a thick undergrowth, I reopened the lines and chained them carefully.

The concession lines are extended from my eastern boundary due-west in straight lines until they intersect the western boundary.

I made an accurate micrometer survey of all the water within the boundaries of my township, there being a good deal of water and the shores very irregular, a deal of time was consumed at this work.

Regarding the general character of the township, it may be described as follows :—

The more descriptive particulars will be found in the field notes.

The township on the whole is moderately level; in places it becomes undulating, but nowhere attains a very great elevation.

The soil is generally sandy loam, and where not stony will be suitable for farming, though somewhat broken by rocky ledges.

The swamps, with one or two exceptions, were quite dry and with a soil of dark, sandy loam or rich, black muck.

Very little of this township has been destroyed by fire, a small portion at the south-west corner and some along the west boundary.

The timber throughout the township is mixed, consisting of pine, spruce, tamarac, cedar, balsam, poplar, white birch, and in places black birch and sugar-maple are to be seen; a great deal of good tamarac, spruce and cedar are to be found in the township.

The township is supplied with water of the best and purest kind, there being an abundant supply in the north-westerly half of the township consisting of two lakes, the southerly one called Island Lake and the upper one Red Cedar Lake. Outside of these there are five others in the township, three of them being rather small.

The Tamagamingue River enters the township at the north boundary on lot number eleven, here forming itself into the lakes I mention, called Island Lake and Red Cedar Lake, and leaves the township at lot number fifteen, where the concession line between concession three and four intersects the western boundary.

There is a creek of moderate size which crosses the eastern boundary in concession three, close to concession two, and runs north-westerly into Red Cedar Lake about the division line between lots five and six concession six. This creek is very narrow at the boundary, and gradually becomes wider until it enters the lake, where it may be seventy-five links or one chain wide; it is also very crooked, and at the time I saw it was very shallow to within perhaps a mile from the lake, where it becomes deeper and navigable for canoes.

The lakes abound with fish, chiefly black bass, pickerel and pike.

Moose and red deer were plentiful, the smaller game seemingly was rather scarce.

No economic minerals were found during the progress of the survey.

There are no squatters in the township, nor did I see any Indians.

The lines are all well cut out and blazed, and good posts are put in, chiefly cedar, and wherever necessary a stone mound has been placed around the posts.

I have the honor to be, Sir,

Your obedient servant.

(Sgd) W. R. BURKE,

Ontario Land Surveyor.

The Honorable A. S. Hardy,

Commissioner of Crown Lands,

Toronto, Ont.

(*Appendix No. 26.*)

## DISTRICT OF ALGOMA.

### Township of Vernon.

Ottawa, Ontario,
November 16th, 1891.

Sir.—I have the honor to submit the following report of the survey of the township of Vernon, in the district of Algoma, performed under instructions from your Department, dated the 18th day of June, 1891, together with the plans, field notes and account of the same, which I transmit herewith.

I proceeded from here by Canadian Pacific Railway to Nelson Station on the Sault Ste. Marie branch where I obtained canoes and travelled up the Spanish River to within about six miles of Vernon, from which point I portaged through the woods to my south-east corner, where I commenced the survey, carrying it out according to instructions, the details of which are shown on the plans and on the field notes. The north boundary of the township of Porter, which forms the front of the township of Vernon, I chained and posted, as I found it had been surveyed previous to my arrival on the ground.

The surface of the west half of this township is hilly and rocky, with several large spruce and tamarac swamps. The east half is generally undulating, with hills in the north and east. The soil, generally sandy; in some places yellow loam, particularly in the south-east part. I consider about 30 per cent. of the township fit for cultivation.

The only stream of any importance is a large creek flowing through the western portion of the township into the township of Porter, having an average width of twenty-five links, and from two to three feet deep, and could be made fit to drive timber on. A few small lakes, or rather ponds, were met with.

The timber is spruce, birch, balsam, white pine and cedar, with maple in several places. The greater part of the pine is of small size and scrubby, excepting a belt on the west side on lots numbers eleven and twelve, extending through the township; also in the south part of concession one and two, and again in concession six on lots numbers eight and nine. These several belts are of large pine, apparently of good quality. The eastern portion is covered with a thick growth of small-sized pine, much of which is of value.

There is a brule in the north-west corner on lots number twelve and part of eleven in the fourth, fifth and sixth concessions.

The rock exposures are granite, and no trace of any minerals of economic value were met with.

Large game, such as moose and deer were plentiful, and partridge uncommonly so.

There are no settlers in the township.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) E. J. RAINBOTH.
Ontario Land Surveyor.

The Honorable A. S. Hardy
Commissioner of Crown Lands,
Toronto.

(*Appendix No. 27.*)

## DISTRICT OF ALGOMA.

### Township of Bigelow.

Toronto, Ontario,
November, 18th, 1892.

Sir.—I have the honor to submit the following report of the survey of the township of Bigelow, in the district of Algoma, performed under instructions from your Department, dated the third day of June, 1892.

I proceeded to Webbwood, the railway depot nearest to this township *via* Collingwood and Algoma Mills, and from Webbwood made use of a lumberman's road which enters the township of Bigelow at the south boundary at a distance of about twenty miles north-easterly from Webbwood station.

The survey of the township I commenced at the north-west angle of the township of Porter, being the south-east angle of the township of Bigelow, and ran out the several concessions and side lines due-west and north respectively, laying out the lots so as to conform as nearly as possible with the instructions and the projected plans furnished for my guidance.

I found that the south boundary of the township had been run apparently about ten years ago, and the work having evidently been carefully performed by a surveyor, I reopened and reblazed it, planting posts as shown in the accompanying field notes.

The north and west boundaries run by Provincial Land Surveyor Salter about thirty-five years ago, I retraced with much difficulty, owing to the action of fire in the interval, and reblazed as instructed

The original posts by Provincial Land Surveyor Salter at the north-east, north-west and south-west angles of the township I found with the original marks still legible.

The greater portion of this township is much broken by rocky ridges, in some instances 300 to 400 feet high

The main branch of the Spanish River intersects the north boundary of the township on lot three, and flowing in a general southerly direction crosses the south boundary on lot number three, having an average width of about four chains, with current very rapid. This part of the river had at the time of survey an average depth of about two feet the bottom being stony and the banks about ten feet high.

The west branch of the Spanish River draining the southern part of the township is about one chain in width, with a depth of two feet and generally moderate current. On lot number five, concession number two, a "rapid," adapted for water power, occurs in this stream. This point is about three-quarters of a mile from its junction with the main branch.

A stream known as Miller's Creek drains the westerly part of the township. The average width of this creek is twenty links, with a depth of two feet and moderate current, the water being clear and of first quality.

The lower part of this stream has been used for driving logs. Numerous spring creeks water the township.

Very little of the land in this township is adapted for agriculture, the only area of good soil of any extent being in the valley of Miller's Creek and along the west branch of Spanish River

In the vicinity of the main branch of the Spanish River the soil is of a sandy and gravelly nature. The land suitable for cultivation would not exceed 25 per cent. of the area of the whole township.

The geological formation met with was chiefly Laurentian, and no indications of minerals of value were seen.

The magnetic variation was very regular throughout.

Nearly one-half of the township is covered by brulé, fire having evidently first passed through it about fifteen or twenty years ago.

The second growth timber consists of pitch or jack pine, poplar and birch, with undergrowth of alders and hazel.

The only marketable pine of any extent is found in the vicinity of the east and south boundaries, its position being more particularly indicated on the timber plan herewith.

With the exception of partridge and rabbits, very little game was seen, and the streams contained scarcely any fish.

Small wild fruit, such as blueberries and raspberries were abundant.

Accompanying this report will be found field-notes of the survey, with general plan and timber plan.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) T. B. SPEIGHT,
Ontario Land Surveyor.

The Honorable A. S. HARDY,
Commissioner of Crown Lands,
Toronto.

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*(Appendix No. 28.)*

## TOWNSHIP OF GOUGH.

DISTRICT OF ALGOMA.

LISTOWEL, ONTARIO,
December 1st 1892.

SIR.—I have the honor of submitting the following report of my survey of the township of Gough in the district of Algoma according to your instructions dated the 29th day of June A.D., 1892.

Leaving Listowel on the 30th day of July, I proceeded by railway to Wiarton, thence by boat to Algoma Mills, thence easterly by railroad to Webbwood in the township of Hallam, where I engaged the remainder of my party, and completed my outfit. From this point I took my supplies, etc., by wagon, to the outlet of Birch Lake, situate in the township of Shakespeare, from this point I was enabled to take my supplies, etc., by small boats into the centre of the township where I stored them in a convenient place in a tent, and camped upon the shores of the lake during the greater part the survey.

I commenced work at the south-east angle of the township at a cedar post planted by Ontario Land Surveyor Stewart as the north-easterly angle of the Township of May, brushing and reblazing and chaining the north boundary of the township of May for the front of my first concession, laying off the lots forty chains in width by eighty chains in depth running my lines due-north and south and east and west astronomically. At the south-west angle of the township I found the cedar post in a stone mound placed there by Ontario Land Surveyor W. Beatty in 1871, and seven chains and five links east of this point I found the cedar stake planted by Ontario Land Surveyor Stewart as the north-west angle of the township of May. The bearing trees corresponding to both of these points were there. I brushed out and blazed the west and north boundaries of the township at the north-west angle I found the old post in a stone mound that had been placed there by Ontario Land Surveyor W. Beatty in 1871, which was very much decayed, I placed in a new pine post, marking the name of the township (Gough) and the number of the concession and lot on the proper sides thereof and placed a number of stones on the mound making it a good landmark. At the north-east angle of the township I found the spruce post marking the point, it was in a good state of preservation. At the same point there was an iron-wood post placed, with the number of the lot and concession thereon, and the name of the township (Dunlop) on one side of it in lead-pencil. The pine-bear-

ing tree, was there with the marks partly grown over. In many places it was difficult to find the line on account of the great length of time since it had been run. The east boundary I brushed out and blazed two years ago, and it did not require it again.

The township on the whole is rough and rocky, there being only a small portion of arable land lying along the south boundary and extending westward to Birch Lake. The soil is clay soil, the balance of the township not rock is a sandy loam, in most places pure sand.

The timber is mostly green, only a narrow strip along the south boundary having been burnt over, a portion of the pine has been taken out but there still remains a great deal of very good timber. There is also a large quantity of white spruce, tamarac, cedar and hemlock good for railway ties and other purposes.

There are several small lakes through the township, most of them are quite shallow with but few fish in them. Birch Lake is a large beautiful sheet of water, very deep and abounding with pike, maskinonge, black bass, white-fish and lake trout. There are no large streams in the township, but there are several small spring streams, just such places as one would expect to find speckled trout, but there are none. There being no limestone in this part of the country, "the speckled beauties" do not inhabit any of the streams.

The geological formations are Laurentian and Huronian, the principal rock is gneiss, no minerals of any economic value came within our notice during the survey.

There are no settlers in the township two parties have made small improvements on lots numbers four and five, concession first, where a Hudson Bay post had been established a great many years ago. The parties are living in Webbwood.

Game is very plentiful, such as moose, red deer, bear and partridge.

Several astronomical observations were taken during the survey, and the variation of the magnetic needle was found to be 4° 40′ West.

Accompanying you will find plans field notes, etc., of the survey.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) LEWIS BOLTON,
Ontario Land Surveyor.

The Honorable A. S. Hardy,
Commissioner of Crown Lands,
Toronto.

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(*Appendix No. 29.*)

## TOWNSHIP OF DUNLOP.

District of Algoma.

Wilton, Ontario,
December, 20th 1892.

Sir.—I have the honor to submit the following report of the survey of the township of Dunlop in the district of Algoma surveyed under instructions from your Department issued to me and bearing date the 18th of June 1891.

I proceeded to Collingwood by the Grand Trunk Railway and thence by steamer to Webbwood station, on the Algoma branch of the Canadian Pacific Railway. From this point, I reached the south boundary of my township by following the lumberman's road which leads northward from Webbwood.

Pursuant to instructions I retraced and chained the south boundary and planted posts as shown in the accompanying field-notes. Finding a surveyed line opened out evidently for the purpose of defining the east boundary of this township, I adopted it and planted posts thereon to mark the fronts of the several concessions.

I also retraced and chained the west boundary and planted new posts beside the old posts planted by Provincial Land Surveyor Salter to mark the south-west and north-west angles of this township.

Having met with unforseen difficulties in the survey, by permission of your Department I delayed its completion until the summer of 1892, when I completed the work as shown in the accompanying plan and field-notes.

The soil in this township is chiefly clay and clay-loam but much broken by rocky ridges with numerous bluffs in the south-east quarter of the township, rising to a height of from 200 ft. to 300 ft. In the south-east, north-east, and north-west parts there are tracts of sandy plains of considerable extent for the particular position of which I beg to refer to the general plan.

Not more than 25 per cent of the whole area, and of this amount no considerable area in any one place may be termed good farm-land. The township is well watered by the Spanish River and by numerous lakes and springs.

The Spanish River, which enters the township on lot three, concession six, and running in a southerly direction crosses the south boundary on lot four, concession one, has an average width of about ten chains with a rapid current but in general it is very shallow. It is dotted with numerous islands, some of which are of considerable extent and contain excellent clay-loam but being low-lying are subject to inundation during seasons of high water.

The lakes are generally bounded by rocky shores and contain clear water of good quality.

The whole township may be considered well timbered by tamarac, spruce, birch, balsam, cedar, and maple.

Lumbering operations having been carried on in this township for some years most of the valuable pine has been removed but some still remains in concessions five and six.

The magnetic variation, with one or two exceptions was very regular throughout, and no minerals of value were seen. The rock formations are Laurentian and Huronian.

There are, as yet, no settlers in the township.

With the exception of a few partridges and rabbits no game was met with and the waters contain few fish.

Accompanying this report is a general plan, a timber plan, and field notes.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) D. L. SANDERSON,
Ontario Land Surveyor.

The Honorable A. S. Hardy,
Commissioner of Crown Lands,
Toronto.

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(*Appendix No. 30.*)

## TOWNSHIP OF SPOHN.

District of Rainy River.

Toronto, Ontario.
December, 1st, 1892.

Sir.—I have the honor to submit the following report of the survey of the township of Spohn, in the district of Rainy River, made in accordance with instructions from your Department, dated the 4th day of July, 1892.

The township of Spohn is situated north and east of the junction of Rainy River and the Lake of the Woods, and is bounded on the south by Paskonkins' Indian reserve, the Wild Land reserve and part of the township of Blue; on the east by the

line between ranges 22 and 23 (Dominion Government system of survey); on the north by the Lake of the Woods, and on the west by the Lake of the Woods and the Rainy River.

I might here state that the township of Blue and the Wild Land reserve were surveyed under the old system of survey first adopted by the Dominion Government, and consequently there was a road allowance of one chain and fifty links laid out or reserved around each section of six hundred and forty acres, and that under that system of survey the lines surveyed on the ground were the south and west sides of such road allowances, therefore the surveyed line in front of the first concession of the township of Spohn is actually one chain and fifty links south of the south boundary of such township, and the line surveyed west of lot number two in the first and second concessions of said township, or in other words the east boundary of the Wild Land reserve is one chain and fifty links west of the true west boundary of said lot number two. In the same way the line in front of the third concession of the township of Spohn, across lots three to twelve inclusive, and a part of lot number thirteen is one chain and fifty links south of the true south boundary of said concession. Paskonkin's (Indian) reserve was surveyed by the Department of Indian Affairs, and they reserved at that time a road allowance, one chain and fifty links wide along the north boundary thereof, seventy-five links in width on each side of the line surveyed.

I commenced the survey of this township at the distance of one chain and fifty links north of the intersection of the line between ranges number twenty-two and twenty-three with the line surveyed as the north boundary of the township of Blue. I could not find the old post at this point, it having either rotted away altogether or sunk out of sight in the soft muskeg.

I planted an iron bar at this point, marked "R" on the south side, "concession I" on the north side, and "No. 1 Spohn" on the west side, and also drove alongside of the said bar a wooden post in order that they might be more easily found.

The iron bars used on this survey were made of one and five-eights inch gas pipe and were five feet in length.

I then opened up and rechained the line surveyed as the north boundary of the township of Blue, and planted the post between lots one and two, one chain and fifty links north of the line, marking the same "R" on the south side, the number of the concession on the north side, and the lot numbers on the east and west sides. At the distance of one chain and fifty links from the east boundary of the Wild Land reserve I planted the post, marking the south-west angle of lot numbered two, concession number one, at the distance of one chain and fifty links, north of the line surveyed. I next recut the two miles of line forming the east boundary of the Wild Land reserve abutting that township and chained it, leaving a temporary post for the line between concessions one and two. I found that this line measured to the north limit of the road allowance to the north of the Wild Land reserve considerably more than one hundred and sixty chains, and if the first two concessions of the township were to be made exactly eighty chains each, the line between concessions two and three would have an ugly jog in it in the township. In order to remedy that I planted the post, marking the south-east angle of lot number three, concession number three, at the distance of one chain and fifty links north and one chain and fifty links east of the post planted to mark the north-east angle of the Wild Land reserve, and from said post I ran the line in front of the third concession due east to the range line, forming the east boundary of the township of Spohn, and planted a post at the intersection, marking it "concession II" on the south side, "concession III" on the north side and "1" on the west side, no mark was placed on the east side.

In measuring south from this last mentioned point, I made concession two eighty-one chains and fifty links in depth, thinking that by so doing, I would be making concessions one and two about the same depth, but it did not turn out so. When I chained the remainder of the east boundary, the post left temporarily on the east boundary of the Wild Land reserve was moved one chain and fifty links east of the said line and

planted on the line between concessions one and two when that line was surveyed. This post was marked "R" on the west side, "11" on the east side, "concession 1" on the south side, and "concession 11" on the north side.

The posts planted on the front of concession number three, to mark the lot lines, are placed on the north limit of the road allowance, and are therefore at the distance of one chain and fifty links north of the line surveyed on the grounds, and are marked "R" on the south side, with the number of the lots on the east and west sides, and the concession number on the north side. The posts planted in the front of the second concession, lots numbers thirteen to seventeen inclusive, are placed seventy-five lengths north of the surveyed line and are also marked "R" on the south side.

Iron bars with wooden posts alongside of them have also been temporarily planted at the north-east and south-west angles of the township of Spohn, the water of the Lake of the Woods at the time of survey, being too high to admit of the planting of them on the true shore line. The former of these iron bars being marked "No. 1, Spohn" on the west side, and the latter marked "R" on the south side, "concession 11" on the north side, and "No. 17, Spohn," on the east side, no mark was placed on the west side.

In the township of Spohn the lots number from the east to the west, and the concessions number from the south to the north.

With the exception of the few lines noted in the field notes, the bearings of the side lines in this township are due north astronomically, and the bearings of the concession lines due-west astronomically.

A large portion of the surface of the township of Spohn is open spruce and tamarac swamp, which in some places changes into a thick swamp, with large timber and a considerable quantity of cedar of good quality. I noticed in these swamps, that where the water lay continually all the year round that the timber was very small, although it did not have the appearance of being stunted, and the moss-covered surface was very even and regular, but that in those portions of the swamps where the water was high and low alternately, the timber is thick and dwarfish in growth generally, with dead tops and bad hearts.

On the higher portions of the township the timber is chiefly poplar, balm of Gilead, spruce, birch and tamarac. There has at one time been considerable pine throughout but it has been cut in previous years, under license, and what remains of it is hollow, stunted and punkey.

In the south-western portion of this township, there is a tract of excellent farming land. It has been mostly burned and would be very easily cleared. Wild hay grows on this tract very luxuriantly, often attaining the height of six feet.

There are also several other small tracts throughout the township that would require very little labor to convert them into good farming districts, but the majority of the land would require a considerable amount of drainage to render it fit for cultivation.

I am very doubtful if the swamps or muskegs in the extreme south-east portion of the township is capable of being drained, as the lake there has no apparent outlet, although quite a considerable creek flows into it.

The soil in this township is generally clay loam of a good quality, resting on a clay or sandy subsoil on the high land, while the subsoil of the swamp is, as a rule, sandy.

On account of the great height to which the waters of the Lake of the Woods rose this year, I was unable to produce the lines of this township out to the normal shore line, but I left them all marked with temporary posts well planted, so that they can be completed with little labor and expense when the water recedes.

Mr. D. McGinnis has squatted on lot number fifteen in the third concession of Spohn, and has erected a house and stable and made a small clearing which I was unable to traverse, on account of the height of the water. His two sons have also improved

parts of the hay meadow, on lots numbers sixteen and seventeen, concessions numbers two and three, but have as yet done no regular clearing. There has also been a small clearing made on the line between lots numbers fourteen and fifteen, concession number three, and a house and stable erected on lot numbered fourteen, but the party being away at the time I was not able to ascertain his name.

Accompanying this report please find the plans and field notes.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) H. B. PROUDFOOT,
Ontario Land Surveyor.

The Honorable A. S. Hardy,
Commissioner of Crown Lands,
Toronto.

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(*Appendix No. 31.*)

## DISTRICT OF ALGOMA.

### Township Outlines.

Toronto, Ontario,
December, 14th, 1892.

Sir.—I have the honor to submit the following report on the survey of township outlines along the line of the Canadian Pacific Railway in the district of Algoma during the past summer, under instructions from your office dated 29th June, 1892.

This work which consists in a traverse along the railway track as a basis from which to locate the township corners, was begun last year by Ontario Land Surveyor E. Stewart, and my survey was a continuation of his. He left off at his traverse station (No. 309), at Woman River station, this was station (No .1) of my traverse. where I began work on July 13th, having left Toronto on the 11th. My survey extended as far as to Windermere station, about eighty miles by the track. Traverse station (No. 344) was a point on the north boundary of township (No. 37), and I extended the traverse beyond this, the short distance necessary to connect with the station platform at Windermere, as a reference from which the survey can readily be picked up again. Field operations were concluded on October 6th and on the 10th we arrived in Toronto, making a halt at Chapleau to receive the funds that had been forwarded for paying off the party. My assistant and chairman came from Toronto, the other members of the party from Powassan near North Bay, being persons whom I selected from a previous knowledge of their fitness for the work.

According to a previous arrangement by the Crown Lands Department, with the Canadian Pacific Railway Company, our camp was moved from point to point as the survey progressed by freight trains, and our thanks are due to the employees for their universal courtesy in the performance of this service.

The method and the objects of the survey are set forth in the instructions, which were closely adhered to: they are explained also in Mr. Stewart's report of last year. Briefly the work may be described as the locating of the corners of a belt of townships along the line of the Canadian Pacific Railway, by a traverse of the same, and finding by "latitudes and departures" the points at which the various boundaries cross the track, and then establishing the township corners by running out from the points thus found. Posts were planted where the township boundaries crossed the limits of the railway right of way; the posts used at these points as well as at the township corners, were of iron, being made out of gas-pipe, cut into "three feet lengths," a wooden post was planted alongside the iron in each instance. The mile posts on the boundaries were simply wooden posts flattened, and marked with the number of miles from the east or from the

south boundary, as the case might be. The posts at the railway crossings were marked on opposite sides, with the number of the township which they faced, and with the letter "R," on the side next the railway track; at the township corners the posts were marked with the numbers of the townships cornering there. The iron posts were marked with a cold chisel. Stones were always piled around a post and bearing trees taken, when these were obtainable. The posts used by me were of the stock left over last year by Mr. Stewart, and I used all of them. In future I would suggest that instead of using the open tube, it should be plugged at each end, forged and finished off to a point at one end, and rounded off at the other. Thus they would drive into the ground readily, and longer resist corrosion, with only the outer surface exposed to the weather. The townships are, of course, blocks six miles square, normally, with their sides running due-north and south, and east west respectively. I regret to say that owing to a clerical error in the computation of latitudes and departures of township No. 19, its east and west boundaries will be some four chains greater than the normal length; similarly the departures for township No. 36, give it a width from east to west of 481.23 chains, and the latitudes give it a length from south to north of 481.393 chains. At this point it may be mentioned that as the traverse passes to the south-west of the north-west corner of township No. 34, instead of to the north-east, as shown on a projected plan, the number "XXXV" was marked on the south-west face of the post at the said north-west corner of township No. 34, instead of on its north-east face, and on my plan of the survey, township 35 lies to the west of township 34 instead of to the north of it. The north boundary of township 31 was run throughout, and when the traverse came to be plotted, it was found that it made a short sweep south across the north boundary of township No. 32, no part of which was run. Practically, however, this is of no importance, since the nearest township corner, viz., the north-east corner of township 32, was established, by the two boundaries run to that point.

The actual location of the township corner in any instance was determined by the intersection of the boundary lines run in from the railway track; where only one line was run to a corner, the post was planted at the end of the theoretical distance for the side in question.

The divergence in any instance, where noticeable, between the length of a boundary as actually measured, and its required length as deduced from the traverse was not much greater than might be looked for between the results of two chainings made under such unequal conditions as over a level railway track, and over a rolling country, and through the woods. Therefore while in the field notes of the boundaries, the chainage is given as it actually came out, the numbers marked on the plan are those deduced from the latitudes and departures of the traverse.

The bearings were checked at pretty regular intervals by astronomical observations, Polaris being generally the object selected for this purpose, but sometimes the sun was used; the points at which observations were taken are indicated in the traverse notes and the errors given. After each observation, the error where noticable, was corrected as far as possible, by computing anew the bearings back from the place of observation, for a number of stations along the traverse. During the hot weather, the ballasting, etc., of the railway track became heated to such an extent that the superincumbent air is in a a greatly agitated condition, rendering the image of the picket in the telescope very unsteady and indistinct, making very accurate pointing impossible. During a hot day this is no doubt an important source of error. The portion of the Canadian Pacific Railway covered by my traverse abounds in sharp curves, and as these were very often either in a cutting or upon an embankment or even a trestle, short sights were inevitable.

In reference to the plan of the survey which I have prepared I may say that the full lines show the portions of boundaries actually run, the portions not run being shown by dotted lines; the distances marked on these are obtained by subtracting the distance actually run from the theoretical length of the whole boundary, in each instance.

From the map furnished with my instructions, I was able to find the exploration line by Provincial Land Surveyors Salter and Gilmour run in 1866-7, due east from the mouth of Michipicoten River, Lake Superior. We got on to it where it strikes the west

shore of Lake Como and traced it thence westward to the railway track; it is a compass line, with the trees blazed on two sides only, viz., east and west, the railway crosses it on the fifty-seventh mile from Lake Superior.

The north boundary of township 31, which was run by us, crosses the east and the west boundaries of the Canadian Pacific Railway Company's block of land at Chapleau, but both intersections are in the waters of Nebsquashing River and its tributary; I connected my traverse survey, however, with the north-west corner of said block.

As already stated, my survey extended from Woman River to Windermere, and for purposes of topographical description, it divides naturally into two parts, the point of division being at Chapleau. The geology however, the soil, and the species of timber met with, are the same throughout the whole survey. The rocks belong to the Laurentian, and are gneiss or granite. East of Chapleau few exposures were seen; but the rock appeared to be darker in color owing to the presence of black mica, than further west.

At a point some two miles east of Chapleau the rocky country begins. The rock appears to be chiefly a mixture of quartz and orthoclase feldspar, with, in general, not much mica. The rock is hard therefore, and offers great resistance to weathering, and this will to a great extent account for the rugged and uneven character of much of the country. Dykes and masses of greenstone are not uncommon; there is a cutting in rock of this kind a few rods west of the station at Chapleau, and it forms part of the ridge over three hundred and fifty feet high just east of Windermere station. The country west of Chapleau consists largely of high rolling hills of this gneiss or granite with its greenstone, with very scant sandy soil, and in fact with a good deal of bare rock except for moss, roots of trees, etc. There are few spots that could be cultivated, and even there the soil is sand or gravel. This feature of rugged barrenness reaches its highest development toward the western end of Lake Windermere, the northerly part of township No. 37 being very rocky and broken.

In the neighborhood of Windermere station large erratic blocks of gneiss are seen in all situations, as they were left stranded by the retreating ice. In general, as usual in the case of this kind of boulder, they are not much worn, showing that they have not travelled far. There are two of these immense blocks, each of several yards solidity, perched upon the bare rocky ridge in rear of the station at Windermere. A few miles west of Chapleau there occur some notable ridges of sand, gravel and small boulders mixed, which are probably ancient moraines; there are some of these in the Kinogama country also, and a remarkable example is to be seen just west of the Winnebago river, a little east of the point where that stream crosses the railway.

The agricultural capabilities of the region west of Chapleau can be inferred from what has already been said; there is not much land fit for cultivation, and the soil is sandy or gravelly, or both.

The timber is that which is common to this whole northern country, viz., spruce, tamarac, banksian pine, white birch, balsam, poplar, cedar, etc. Extensive fires appear to have swept over the country in former years, so that over most of the land that we saw the trees are of second growth and small in size.

Between Woman River and Chapleau the country may be described in general terms as level, or gently rolling, and sandy; gravel seems to be scarce, judging from the railway cutting, and from the fact that the ballasting of the track is nearly all sand; in some places this sand has been thrown up into low ridges, and boulders are seen in some of the cuts, and at other points, but the distinguishing feature is the level and wide stretches of sand. It would seem as if there was no clay at all in the soil. Yet at numerous points along the railway track a luxuriant growth of timothy, clover and wild grasses were seen, and no doubt some fine tracts of pasture and hay-land could be found in the lower lying portions, and as there is, I believe, usually a good deal of rain during the summer months, this part of the Province may yet be of some account as a grazing region. Another drawback is the occurrence of summer frosts; we had a severe visitation of the kind on August 4th, and again on the 20th. Still this is a feature of the climate that would be ameliorated here as elsewhere by the clearing away of the forest, and allowing

the sunshine to have free access to the soil. A gentleman in Chapleau has had good success with his vegetable garden for several years; from personal inspection I can testify that his crop of potatoes this year was excellent.

There is much timber of fair size between Woman River and Chapleau. It is chiefly spruce, bankisan pine and tamarac; there is not much birch or poplar until the neighborhood of Chapleau is reached. There appears to be a considerable quantity of tamarac large enough for railway ties, and I came across several parties getting them out, this being about the only industry carried on, outside of what little hunting and trapping is done. This part of the country is well watered by streams of cool, sweet water, while to the west of Chapleau are numerous lakes. Winnebago River is a fine stream of clear water, not brown like the other streams. It varies in width, seventy-five links being about the average, perhaps. Woman River is smaller, and flows through a swampy country, in the neighborhood of the railway track.

The lake at Chapleau is a pretty stretch of water. Lake Como is a fine sheet of water. It is said to be about twelve miles in length, and to contain whitefish in addition to the other species, such as pike and dorè, which inhabit smaller lakes and streams. Lake Windermere extends for a number of miles along the west side of the railway, having a very irregular outline, and no great width apparently at any point.

The water of the lake and streams at Chapleau finds its way to James Bay, but some distance towards the west the height of land is crossed, so that Lake Como, Windermere Lake, etc., drain into Michipicoten River.

There are but few Indians now in these parts. The colony at Chapleau was broken up some years ago by an epidemic of measles, which carried off quite a number, and of the remainder a large proportion moved to Missinabi; there is still a very small settlement of them on the Nebsquashing river, not far down stream from Chapleau.

Game is not very abundant now, I believe. The red deer do not range so far west except in rare instances, while moose are seldom seen; there are a few caribou, though, and bear are to a certain extent numerous yet, while last winter a small pack of wolves was discovered about Windermere, and several of them captured by some hunters. Partridge are tolerably numerous, and hare are very plentiful. We saw a few duck, and a solitary pair of prairie chickens, near Winnebago.

Of fur-bearing animals, such as mink, beaver, otter, martin, fisher, muskrat, etc., there are still representatives, but by the building of the railway most of these have been killed off in the region along the track.

I beg leave to add by way of addenda that we saw not more than two score trees of red or white pine in the whole survey, and that we were careful always with our camp-fires, so that no bush-fire originated from any fire kindled by us, from the beginning to end of our work.

All of which is respectfully submitted.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) JOHN McAREE,
Ontario Land Surveyor.

The Honorable A. S. Hardy,
Commissioner of Crown Lands,
Toronto.

(*Appendix No. 32*).

## DISTRICT OF RAINY RIVER.

### Base and Outlines.

Haliburton, Ontario,
October 19th, 1892.

Sir.—I have the honor to submit the following report on the survey of base and meridian lines in the district of Rainy River, surveyed under instructions from your Department, dated 23rd May, 1892.

Leaving Toronto on the 27th of May last, I proceeded by the Canadian Pacific Railway to Rat Portage, thence by steamer *Shamrock* through Lake of the Woods and up Rainy River to Fort Frances, and thence through Rainy Lake to Sturgeon Falls, on the Seine River, by steam tug, from which point I walked up the east limit of Indian reserve number 23, B. 2, to where my south base line of 1891 terminated.

I commenced here on the 6th of June at a post planted on the east boundary of said reserve 60 miles 69 chains 53 links west of the boundary between the districts of Thunder Bay and Rainy River, and produced my south base line of last year west astronomically to the west side of Rainy Lake, or to 109½ miles from the Thunder Bay district line.

I then proceeded to the 49th parallel or first base line, and from its intersection with the meridian boundary between Ranges XXVI and XXVII, east of the "Principal Meridian" as established by the Dominion Government in the year 1869, I ran south, astronomically, 12 miles 15 chains 50 links, to the first correction line south, coming out 91 chains 34 links east of the north-east angle of the township of Tait.

From the north-east angle of the township of Tait I then ran east, astronomically, along the first correction line south to the waters of the north-west bay of Rainy Lake, a distance of 17 miles 28 chains 97 links.

From an iron post at the north-east angle of the township of Carpenter I then ran north, astronomically, to the first correction line south, a distance of 6 miles 5 chains 59 links, and again returning to the north-east angle of Carpenter, ran east, astronomically, 16 miles 58 chains, to the west side of Rainy Lake. Finally from the 109½ mile point in my south base line before described, I ran south, astronomically, 1 mile 37 chains 93 links, to the last described line intersecting the same, 46 chains 24 links west of Rainy Lake, completing the survey on the 11th of August, and reaching Fort Frances on the homeward journey the same evening.

The details of the work will be found in the field notes.

The lines were run with a 7-inch transit, well cut out and well blazed.

Wooden posts were planted at every mile, and iron posts 3 feet long of 1¼ inch gas pipe planted alongside of the wooden posts at every 3 miles. Wooden posts marked with scribe iron with the number of mile, and iron posts similarly marked with cold chisel, and surrounded by stone mounds wherever stones could be got within a reasonable distance. Bearing trees also taken whenever there were any trees.

The posts on south base line were marked on east side, and numbered continuously from 66 to 109 miles.

On meridian line between Ranges XXVI and XXVII, beginning at 49th parallel, posts were marked on south side from VI to I miles, and again repeating same numbers to first correction line south.

On first correction line south, beginning at township of Tait, posts were marked on east side VI to I miles, repeating same numbers again and again to Rainy Lake; those on line east from north-east angle of Carpenter were similarly marked and numbered on east from VI to I miles.

On meridian line from north-east angle of Carpenter posts were numbered on south side from I to VI miles going north.

The sixth mile in every block or township west of Rainy Lake contains, so to speak, 89 chains (includes six road allowances of 1 chain 50 links each).

Astronomical observations were taken whenever practicable and necessary, the details of which will be found among the field notes, six-mile chords being run on east and west lines.

The magnetic declination of the needle was noted at all stations, the average being 7° 30′ E.

When the end of a mile came in a lake or river, the post was planted on the line on nearest land, and distance noted in field notes.

No posts were planted or trees blazed when passing through Indian reserves.

As will be seen by the plan, the south base line passes over considerable water, Rainy Lake being 7¼ miles where it crosses, but containing many islands.

On the west side of Rainy Lake very few lakes were met with, but the country is well watered by creeks.

Considerable stretches of burnt country or brulé were met with along the lines run, as indicated by the plan, and the whole country has been burnt over in the vicinity of the 49th parallel.

Fine timber was met with in places along the lines of survey, but most of it has been included in limits recently sold. Considerable spruce, tamarac and cedar, with poplar sometimes of fair size, is found in places.

The brulé is generally covered with a thick growth of underbrush of white birch, poplar, spruce, tamarac and pitch pine, of all ages from 7 to 30 years.

The land east of Rainy Lake through which the line passes is, as a rule, broken and rocky, but tracts of clay soil were frequently found. Numerous swamps and muskegs were also passed through.

Along the 49th parallel, and south nearly to the first correction line, the country is broken and rocky and of very little value.

The land to the south of the first correction line is of a different character, and belongs to the Rainy River flat or valley. The townships north of Dobie and Carpenter, and the township east of Carpenter, as far as I could judge, are nearly all good land; the soil is clay, the land level, and the timber poplar, spruce, cedar, tamarac, etc.

The geological formations are the granite and Huronian. No minerals were found, but the disturbance of the needle indicated the presence of iron in many places.

The lakes are generally full of fish of the usual kinds, but salmon-trout are very numerous in Bad Vermillion Lake.

The country is overrun with moose, and partridge and duck were very numerous. Bear were occasionally seen, and also the signs of a few beaver.

I may say in conclusion that my party consisted of 14 all told, and that I had great difficulty in finding my starting point on the 49th parallel, having, owing to fire, to retrace and re-run it in many places, and chain it all the way west from Clear Water Lake, a distance of 10 miles.

Herewith are plan and field-notes of survey, and account.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) A. NIVEN,
Ontario Land Surveyor.

The Honorable A. S. HARDY,
Commissioner of Crown Lands,
Toronto.

(*Appendix No. 33.*)

## EXPLORATORY SURVEY OF LAKES IN THUNDER BAY DISTRICT.

TORONTO, ONTARIO,
June 1st, 1892.

SIR.—I beg leave to submit the following report of the survey and exploration of certain lakes in the district of Thunder Bay, made under instructions from your Department, dated January 14th, 1892.

I left Toronto immediately on receipt of instructions and proceeded to Port Arthur, where I bought the necessary supplies, provisions, snowshoes, toboggans, etc., and engaged the requisite number of men for the work. I had everything ready to start on Monday, 25th January, when I was informed by the manager of the Port Arthur, Duluth and Western Railway that the construction trains had stopped making regular trips for the winter and I could not be at all sure of being taken to North Lake, the starting point of my survey, by railroad for some weeks. Having the men and supplies all ready to start on a certain date, and being afraid of the survey extending such a length of time that the soft weather would set in and the water come on the ice before I would be able to complete the work, I determined to hire teams and get to North Lake by road rather than wait for a possible train.

I arrived at North Lake on the 29th of January. I pitched camp and took an observation of Polaris that night, and made a good start with the work the next morning.

On February 5th I commenced the survey of Northern Light Lake, the intervening time having been occupied in the survey of the portages and lakes lying between North Lake and Northern Light Lake and the exploration of several miles of country on either side of the line of survey.

From February 5th to February 29th I was engaged in traversing the shores of Northern Light Lake, surveying the numerous islands in the same, taking the difference of level between Northern Light Lake and Twin Lake, and between Northern Light Lake and Seiganagah Lake, and examining outlets of Northern Light Lake and Twin Lake with the view of ascertaining any possible way of improving the navigation on these waters. I have already forwarded to you a separate report on these matters.

The work on Northern Light Lake was greatly retarded by bad weather, extreme cold with high winds (the thermometer having fallen as low as – 48°), and also by very mild weather, there having been rain on February 23rd and 24th.

There is some very good pine to the south and east of Northern Light Rock on Northern Light Lake, extending as far south as the main shore north of Eagle Island, but with this exception and a small bunch of pine at the extreme southern end of the long point, the mainland all around the lake has been swept by fires at different times and is now overgrown with a small growth of poplar, birch and pitch pine. Most of the islands in the lake are well-timbered, some of them, especially Eagle Island and the large island in the south-easterly portion of the lake, having some very good pine on them. I think that, taking the pine on the main land and islands, a very good timber limit might be laid out on this lake.

I succeeded in finding some of the lines of the various mining locations that have been patented on this and Twin Lake and have shown them in their proper positions on the plan.

The land is mostly sandy and very much broken by rock exposures and not at all suitable for agricultural purposes.

From Northern Light Lake I proceeded in an easterly direction to Sandy Lake, which I surveyed together with the small lake lying to the south-west of it and tied this traverse on to O. L. S. Sewell's base line. On the north-easterly shore of Sandy Lake some very good pine is met with, but in no large quantities, and with this exception the timber is small, not being at present of any commercial value. The land is mostly sandy and stony.

Waykwobionan Lake lies to the east of Sandy Lake and is intersected by Sewell's base line. I surveyed the greater portion of this lake and tied the survey to Sewell's base line at the 16-mile post. There is a small amount of pine around this lake, also both on the islands and on the main land at the east end of the lake.

Having been informed by Indians and traders that there was a string of lakes extending almost due north from Sandy Lake to the south-west end of Shebandowan Lake, and as there seemed to be no information respecting this district on any of the maps of the country, I determined, as it was getting late in the season, to run my tie-line between the two railroads by that route instead of the route to the north-east of Waykwobionan Lake, by this means lessening the amount of tie-line it would be necessary to survey to take in the east boundary of the township of Moss, and as Greenwater Lake is only about one mile from Shebandowan Lake, it would not be much work running a separate tie line to take in that lake.

From the north end of Sandy Lake to the south end of Little Sandy Lake the country is all of one kind—rough, hilly, rocky, sandy, mostly burned and overgrown with small poplar, birch and pitch pine. Hoof Creek, which is crossed by this tie line, is the outlet of Little Sandy Lake and flows into Sandy Creek a short distance below Koss Lake marsh. Some very good pine in small quantities is found along its banks.

Around Little Sandy Lake and northward to the height of land between Hudson's Bay waters and the waters of the St. Lawrence River some very good spruce and tamarac is found. North-east of Little Sandy Lake, on the explorer's track to Greenwater Lake, a large spruce and tamarac swamp is passed through, just on the east side of the height of land, but the timber as yet has not attained its full growth.

The height of land is crossed where shown on the plan, and I have endeavored to place it approximately off the line of survey.

I might here mention that the water in the lakes and creeks met with on the south side of the height of land, that is, the Hudson Bay waters, is of a very dark color, while the water to the north, the St. Lawrence River water, is clear and pure as crystal. This was observable also in crossing the same height of land between Kashabowie Lake and Lac des Mille Lacs.

After crossing the height of land, and from that to Shebandowan Lake, not such a large amount of the country is burned and the timber is accordingly of a much better quality, more pine is met with and some very good tamarac and spruce.

On the first lake south of Shebandowan Lake the first outcrop of green slate was noticed, the prevailing rock of the country to the south being granite. On Greenwater Lake both green and black slates are met with on the north side, but the outcrop generally shows granite and traps only on the south-east and west sides.

No timber of any consequence is seen on Greenwater Lake, excepting a few pine on the north shore near the outlet. On account of the size of this lake and the great length of the clear stretches of open water, a great many hundreds of acres of timber have been upturned by the wind, and by the direction of the windfalls it is evident that the highest winds are from the east.

As the shores of the western portion of Lake Shebandowan have been surveyed and filed with the Department in the various applications for mining locations I did not consider it necessary to re-survey it, but after having surveyed a compass and chain line from it to the east boundary of the township of Moss, and having located accurately some of the mining locations and having produced my tie-line to the portage between Shebandowan and Kashabowie Lakes and across said portage, I commenced the survey of Kashabowie Lake.

In making the survey of Kashabowie Lake I did not re-survey that portion of the lake to the south-west as it had been surveyed in making mining location surveys, and as it was near the 25th day of March, with every probability of a mild spring, I considered it advisable to complete the tie-line with all the expedition possible as far as the Canadian Pacific Railway.

The timber around the shores of Lake Kashabowie close to the water has all been killed by the action of water caused by the dam built at the outlet when it was thought that this was the best route to the great north-west. Back from the immediate shores

of the lake the whole country has been burned over and grown up with small spruce, poplar, birch and pitch-pine. The soil is mostly sandy and rocky, the general aspect of the country being rolling rather than hilly.

On the islands in Kashabowie Lake some very good pine is met with, but unless it is coupled with some other pine in the same district there would not be sufficient to form a limit which would be an inducement to purchasers.

From Kashabowie Lake I passed to a small lake on the south side of the height of land portage, the shore of which has all been burned. The height of land portage is timbered chiefly with small poplar with willows and alders in the lower portions. The soil is sandy and stony.

Lac des Mille Lacs to the north of the height of land portage is on the Hudson Bay waters and it is about as full of islands as it can hold. I did nothing more on it than ascertain the mining locations and Indian reserve and tie them and the principal points at the east end of the lake to my tie-line and then continued said line to Savanne Station on the Canadian Pacific Railway, where I connected with the 355 mile post east of Winnipeg.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) H. B. PROUDFOOT,
Ontario Land Surveyor.

The Honorable A. S. Hardy,
Commissioner of Crown Lands,
Toronto.

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*(Appendix No. 34.)*

Toronto, Ontario,
May 31st, 1892.

Sir.—I beg leave to submit the following report of the examination of the outlet of Twin Lake into Northern Light Lake and the difference in level between the said lakes, and of the nature of the river between said lakes, and also of the examination of the outlet of Northern Light Lake, with the view of ascertaining if there is any feasible and inexpensive way in which navigation could be established between the said lakes, in accordance with instructions from your Department, dated the 14th day of January, 1892.

Seiganagah Lake is situated at the north-east end of Hunter's Island, and is on the boundary between the United States and Canada.

One of the principal feeders of this lake is the Northern Light River, which flows from about the middle of the west side of Northern Light Lake into Seiganagah Lake.

Bittern Creek, or Twin River, flows into the south-east corner of Northern Light Lake and is the outlet of Twin Lake. Bittern Creek is from 30 links to 75 links wide and having from 2 feet to 4 feet of water in it where there are no rapids, but as the creek is not a mile long and there being about 43 feet difference of level between the two lakes, Northern Light Lake being the lowest, the creek is very rapid and has numerous small falls on it. It would be a very expensive undertaking to build a canal with locks to connect these two lakes for the limited amount of traffic that will be on them for some time to come.

In regard to the feasibility of connecting Lake Seiganagah and Northern Light Lake by a navigable channel I might state that at the north-west bay of Northern Light Lake there is only a narrow neck of land about 200 feet in width separating these two lakes. This neck of land is only a little above the level of Northern Light Lake. When there is high water in the said lake the water flows over this low ridge into Seiganagah Lake. Northern Light Lake is 9 20-100 feet above the level of Seiganagah Lake and a channel could be cut between the two lakes without being very expensive, and which would answer all the requirements of navigation if it were ascertained by sounding, etc., that the water in Northern Light Lake when lowered the necessary amount would still leave sufficient depth of water in all the numerous narrow channels in the lake to permit of the passage of boats.

I have the honor to be, Sir,
Your obedient servant,

(Sgd) H. B. PROUDFOOT,
Provincial Land Surveyor.

The Honorable A. S. HARDY,
Commissioner of Crown Lands.
Toronto.

(*Appendix No. 35.*)

# REPORT

OF

# THE SUPERINTENDENT

OF

# COLONIZATION ROADS.

To the Honorable A. S. Hardy,
Comissioner of Crown Lands,
Ontario.

Sir.—I have the honor to present the annual report of work done under the management of the Colonization Roads branch of your Department during the year ended on the 31st December, 1892.

There have been altogether one hundred and twenty-eight miles of new roads opened; four hundred and fifty-five miles of repairs made, and twenty-seven bridges built, aggregating a length of one mile, beside the repair of some others.

The season was an unfavorable one for road-making on account of continued rainy and cloudy weather, but with due diligence in taking advantage of the best opportunities a very satisfactory amount of work was accomplished, as will be observed by the following detailed account.

## NORTH DIVISION.

### Batchawaning Road.

Three miles of repairs over an exceedingly bad portion of the road between Sault Ste. Marie and Goulais River bridge; more than one-half the work being of a most substantial character.

### Bruce Mines and Desert Lake Road.

A road opened two years ago between Bruce Mines and the Great Northern road. Two miles of its length were this year properly grubbed and graded.

### Cockburn Island Roads.

Work was done on the twelfth concession line, the seventh and eighth concession line, and on the fifteenth and twentieth side lines, amounting in all to half a mile of new work, and a mile and a half of repairs.

### Coffin Road and Bridge.

A bridge seventy-eight feet long, with main span of fifty feet, was rebuilt, and half a mile of new road opened as a deviation from the old one, which was almost impracticable.

### Dorion Road.

Nine miles of repairs, five of which were north, and four south of the Canadian Pacific Railway. As mentioned last year, this road is from Black Bay to the Ogema Mines, and its opening has been materially aided by the mining company with money and labor.

### Echo River Bridge.

A bridge spanning Echo River on the Great Northern road in East Algoma. It was entirely renewed from low water line of the piers and is now an excellent structure, having one main span of sixty-two feet, one of forty-two feet, and an entire length of one hundred and ninety-four feet.

The first bridge upon this site was erected about thirty-two years ago at a cost of $1,750. A second one was built in 1881 for the sum of $1,178.31; and the present for $991.14.

### Goulais River Bridge.

A structure comprised mainly of two one-hundred feet clear openings, and being three hundred and thirty-four feet in length.

The centre pier is of piles driven about twenty feet; the superstructure is about twenty-three feet above the ordinary water line, and the entire bridge is built in the best and strongest manner to secure it from the dangers of the extraordinary freshets to which it will be subjected.

It replaces the bridge built in the year 1880 at the joint expense of the Ontario and the Dominion Governments, and the cost of the present bridge is also to be shared between the two governments, as agreed upon, while up to the present time the Dominion moiety has not been received, but the Department has been officially informed that the required sum ($2,266.41) will be asked for in their supplementary estimates.

### Grand Portage Road.

Two and a quarter miles which were almost impassable are now thoroughly ditched and drained, making a first-class highway. A great many culverts were put in additional to the existing ones.

### Great Northern Road.

Repairs were made over fourteen miles of this road between Root river and Echo river; and through the townships of Johnson and McDonald culverts were renewed and brush cut and cleared along eight miles, making now a very fair road between Desert Lake and Sault Ste. Marie.

### Honora Bay Road.

A road on Manitoulin Island, which it was considered important to construct, in order that inhabitants and intending settlers might reach Little Current for their market.

Construction was commenced between lots thirty-seven and thirty-eight of the first

concession of Howland and at the water's edge; thence northward between the said lots to the second concession; thence east on the blind line to lot thirty-six; thence northward between lots thirty-six and thirty-seven to the second and third concession line; thence eastward to the road allowance between lots thirty-five and thirty-six; thence in a north-easterly direction and almost straight line to the road allowance between the fourth and fifth concessions, at about the centre of lot number thirty; thence again north-eastward to the line between concessions seven and eight and lot number twenty-five; and from thence eastward on the last named concession line to lot number twenty-three, a length altogether of nearly six miles.

### Iron Bridge Road.

Repairs to some small bridges on the road leading to Dean Lake station on the railway.

### Kaministiquia Bridge.

Necessary repairs made during the early part of the year when the use of the ice was necessary.

### Manitoulin Island Roads.

Repairs were made over portions of four roads, namely, Gore and Providence Bay road upon which about $200 were spent in improving; Lake Wolseley road upon which about half a mile of substantial work was done for $118; Sandfield and West Bay road repaired over a mile and a-half for an expenditure of about $100; and Ten Mile Point road, where the work consisted of ninety-five rods of cross-waying and half a mile of gravelling, making together about four miles of substantial and necessary repairs.

### McKenzie Creek Bridge.

This was the renewal of a bridge on Murillo road. Its cost was $219.89, of which the government gave $150, the municipality furnishing the balance.

### Patton Road.

A good road made from about the middle of lot number twelve, in the second concession of Patton northward to the third concession; thence east to the line between lots ten and eleven; thence north a mile and a-quarter; and again east half a mile, making two miles and a-half opened and generally graded.

In addition to the above, half a mile was chopped out northward between lots eight and nine, up to the limit between the fourth and fifth concessions; a large amount of work and the inspector says well done.

### Point DeMeuron Bridge.

These repairs were commenced last fall. Sixty-six heavy piles were driven to protect the existing piers which were very much cut away and otherwise damaged by ice and freshets. The bridge is now considered to be in a perfectly safe condition.

It was built in the year 1886 as then reported and described.

### Rainy River Roads.

In the Rainy River district thirteen miles of new road have been opened this season and some three and a-half miles repaired of the original road, together with the renewal of several bridges.

The new roads were located and constructed to best meet the needs of the present settlers and to open portions for new and intending occupiers of land, and are the following:—

Ninety chains, dating from the old road to the angle of lots three and ten of the township of Crozier, between sections two and eleven.

One hundred chains between sections thirty-one and thirty-two of Lash from the old road to the town line between Lash and Carpenter, and twenty-two chains opened on the latter town line.

One hundred and fifteen chains of the line between lots ten and eleven of Carpenter.

One hundred and eighty-one chains (2¼ miles) beginning between sections fourteen and fifteen of Morley, ten chains north of sections ten and eleven, and thence north between the sections, reaching thirty-one chains in upon that between sections twenty-six and twenty-seven.

Two hundred and sixty-five chains opened from the south-west corner of section eighteen of Patullo, south between Patullo and Nelles, two miles and eight chains, or eight chains south of the corners of four townships; thence S. 58° W. magnetically eighty-five chains; thence S. 25° W. about twelve chains to the line between thirty-five and thirty-six of Dilke.

One mile was also opened as a cheap winter road eastward from the four corners above referred to, between Morley and Patullo to the south-west angle of section five, Patullo.

More than three hundred feet of new bridging was effected in addition to the foregoing; five new structures having been built in connection with the roads.

### Rabbit Mountain and Whitefish Lake Roads.

Twelve miles of repairs between the fourth and sixteenth mile posts.

### Rat Portage and Keewatin Road.

This road, about five miles in length, was generally improved.

### Spanish River Road.

Work was commenced on south-east quarter section number twenty-five of Victoria and continued east to section twenty seven of Salter, there connecting with the road made last season; four miles of new road and the work highly commended.

### Thessalon and Bright Road.

Some necessary repairs made upon the inspector's representation, to make the road in some degrees passable.

### Webbwood Road.

Nine miles of excellent repairs upon this road which is from Webbwood Station northward through the townships of Hallam and Shakespeare and was impassable for ordinary travelling and teaming.

### White River Bridge.

An expenditure on account of bridge timber required, and which it was necessary to obtain during the winter months.

## WEST DIVISION.

### Ahmic Harbor and Burk's Falls Road.

About three and a quarter miles of repairs made from Ahmic harbor eastward toward Magnetawan, ending at bridge over Magnetawan River. The bridge referred to was re-covered with two-inch plank for one hundred and twenty-four feet of its length.

### Alsace Road.

This road is between the second and third concessions of the township of Nipissing, and was well repaired over three miles between lots eight and nineteen; several deviations were made.

### Armour Road.

Three-quarters of a mile opened from lot fifteen to lot nineteen on the tenth concession line to unite with East Armour Road; and over a mile constructed from the ninth concession southward between lots ten and eleven to the seventh concession; and from thence angling through lot eleven to the sixth and seventh concession line; the right of way through the last-named lot having been secured by the municipality.

### Baysville Bridge.

The renewal of a structure built about sixteen years ago on Macaulay road, over the south branch of Muskoka River, at Baysville. The length, originally three hundred and sixty feet, has been reduced by permanent filling to three hundred feet. The bridge is comprised of six openings, two main spans of about fifty-four feet, and the others thirty feet or over.

### Beaver Lake Road.

A new road in the townships of Spence and Monteith, from the Parry Sound Colonization Railway northward.

Work was commenced at lot number seven of the fourth concession of Spence, and continued from thence southward through lot seven of concessions four to one inclusive of the said township, and through the same lot number of the thirteenth and fourteenth concessions of Monteith.

Four miles have been made altogether, leaving nearly two miles yet to be constructed in order that the whole road may be available for its intended use. It will be a most advantageous highway when completed.

### Bethune 10 and 11 Side Line Road.

This road was intended to be built upon the side line which its name indicates, but it was found impracticable to do so, and it was therefore made on lot number eleven, through concessions three to six inclusive, except about ninety rods in the third concession which followed the side line. Two miles and a-half of new work.

On the Chaffey road from the tenth side line to lot five repairs were made, as this mile and a quarter was found to be almost impassable. The above represents a large amount of work for an expenditure of $499.16.

### Brunel Road.

The road between Port Sidney and Bobcaygeon road and passing between Lake of Bays (or Trading Lake) and Peninsula Lake.

One mile of substantial repairs were effected between lots twenty-three and twenty-eight of Franklin. Settlers contributed voluntary labor to the extent of some $8.

### Chaffey 12 Con. Road.

This work consists of a bridge built across East River on lot number twenty, concession twelve of Chaffey. It has a clear span of twenty-seven feet, and length of fifty feet, and is an excellent workmanlike job, costing about $165. Two dams which caused flooding to a considerable area of land were removed, and about 100 cubic yards of rock blasted from the bed of the creek, thus draining the land and putting roads in the vicinity beyond the reach of floods.

### Chisholm 10 and 11 Con. Road.

A mile and a-half of rough road opened in the township of Himsworth, between the tenth and eleventh concessions, from lot two to lot nine.

### Conger Road.

Somewhat over a mile of a very rough portion was well repaired between concessions one and two on lots eleven and twelve of the township of Foley.

### Eagle Lake Bridge.

This bridge, first erected in 1879, is now under renewal. Its length is three hundred and sixty-one feet, and it will be finished in January or February next.

### German Road.

A mile and a half of new road, the work being from Mills road, between concessions ten and eleven, angling through lots twenty-five in the eleventh concession, and lots twenty-four, twenty-three and part of twenty-two in the twelfth concession of the township of Mills.

### Indian Peninsula Roads.

Nineteen and a half miles of repairs, namely : ten miles on the road between Stoke's Bay and Pike's Bay ; four miles between concessions six and seven Eastnor, from lot ten to lot twenty-six ; two miles and a half in the township of Lindsay, on the main road between lots twenty-five and thirty-six ; and three miles of excellent work between lots fifteen and thirty-seven of St. Edmond's township on the Bury road.

### Joly Road.

Two miles and a half of repairs and half a mile of new work. The repairs were between lots nine and eighteen, and the new work the extension of the road through lots twenty-six and twenty-seven, all in the township of Joly.

### Joseph River Bridge.

One panel of the bridge raised to permit the passage of small steam craft. It was well and cheaply done.

### Laurier Road.

Beginning at the first concession of Himsworth and end of last season's operations, three-quarters of a mile were opened southerly through parts of lots eleven and twelve in the fourteenth concession of Laurier, two hundred and sixteen rods being cross-waying through a muskeg which was the only practicable route.

### Lorimer Lake Road.

Repairs to a bridge on this road in the township of Ferguson.

### Machar 5 and 6 Side Line Road.

The construction of a mile and a-quarter between lots five and six, through the third and fourth concessions. Bridging and cross-waying to a considerable extent was done over the length named.

McKellar 10 and 11 Con. Road.

A mile and a-quarter of new road made from lot number twelve eastward to lot number seven, but deviating into the latter lot and lot eight also, to avoid a small lake, otherwise the road is between the tenth and eleventh concessions.

In addition a bridge eighty-four feet long was covered with plank and the hand-railing renewed. This bridge is on Lorimer Lake road in the same township.

Mills and Wilson Road.

From about the centre of lot number sixteen to the middle of twenty-eight, two miles and five-eighths of a mile were opened on the town line between the townships of Wilson and McConkey, but with necessary deviations into the fourteenth concession of Wilson, on lots twenty-one, twenty-seven and twenty-eight.

Muskoka Road.

Three miles of very substantial repairs were effected between Berriedale and Sundridge, beginning at the north town line of Armour.

In the vicinity of Katrine some heavy hills were well improved, and some diversions made, representing about another mile and a quarter of repairs. Also a mile and a-half of road was constructed from the town line between Gurd and Machar, northward to the Westphalia road. In this latter work which was intended to be on the road allowance between lots fifteen and sixteen, the road was opened through lot sixteen in both concessions (cons. one and two, Machar), owing to difficulties upon the side line.

Muskoka and Bobcaygeon Road.

Two and a-half miles of construction through a rough and broken country to reach the Bobcaygeon road, which has been done at a distance of about a mile and three quarters north of Dorset. The work was a continuation of last season's operations, and passes through lots three and two of the third concession, lot one in the second concession and on through the Bobcaygeon road lots in the township of Franklin.

Musquosh Road.

This work was the opening of about three quarters of a mile as a diversion to avoid a rough and rocky section where the existing road was little more than a trail. There were also some repairs made over a mile and a quarter of the road from Bala towards Gravenhurst, where, before the present improvements, it was almost impassable.

New Jerusalem Road.

The construction of a mile and three quarters from the Muskoka road, from lot twenty to lot twenty-eight of the township of Machar. The road was intended to be upon the road allowance between the twelfth and thirteenth concessions, but on account of natural obstructions, was made into the thirteenth concession, through lots twenty-one to twenty-five inclusive. The work is highly spoken of by the inspector.

Nipissing Road.

Five miles of repairs in the township of Nipissing. The road was overgrown and almost useless, but with the present improvement is travelable between Calendar and Nipissing village.

Northern Road.

Repairs from the town line between Hagerman and Croft and the twelfth concession of Ferrie, altogether about ten miles put into fair shape.

North-West Road.

The restoration of a bridge over Rainy Creek, partially destroyed by fire; the length being, with the cross-way approaches, one hundred and eighteen feet.

Oakley Bridge.

The renewal of a bridge over Muskoka River on the town line between McLean and Oakley, built originally in 1873. It is one hundred and fifty-seven feet long, and composed chiefly of three truss spans, the main opening being sixty-one feet and the others about thirty-eight and twenty-seven feet respectively. The piers, three in number, were renewed from low water line, otherwise the structure is new throughout, and is an excellent and cheap bridge.

Old Man's Creek Bridge.

A bridge of thirty-three feet clear span and total length of fifty-three feet, well and cheaply built over a creek of the same name on Junction No. 1 road, and on lot number nine in the eleventh concession of the township of Spence.

Parry Sound Road.

This expenditure was for the general improvement of the road in the township of Humphrey, and consisted chiefly in filling up permanently bridge approaches, repairing a bridge over White Oak Creek, with other work for the general advantage.

Pringle Road.

A mile and a half of new road as a continuation of work of two years ago. This year the work was through lots two and three in concession eleven, and lots one and two in the twelfth concession to the road allowance between concessions twelve and thirteen, all in the township of Pringle. Fifty dollars of the money were spent on the Northern road near Commanda in the repairing of two very rough hills.

Seguin River Bridge.

Necessary repairs reported by the inspector as required to make the bridge safe. It is on the Nipissing road.

Simpson Road.

This road work was more properly on the Golden Valley road and the Northern road consisting in the first place, of work on the latter road extending from repairs made two years ago to the first named road and thence along the Golden Valley road, making altogether two miles and a-half of substantial work.

South Falls Bridge.

A bridge seventy-eight feet long with main span of forty feet in the clear, and is the renewal of one built many years ago. It is on the Muskoka Road about four miles south of Bracebridge.

South River Bridge.

A new structure one hundred and twenty-three feet long resting upon pile piers and with a main opening of sixty feet.

Stisted Road.

Is between lots ten and eleven of McMurrich and was repaired between concessions one and seven—one and three-quarter mile.

STRONG TOWNSHIP ROADS.

About four miles altogether of repairing two and a-half being made between concessions four and nine of the thirtieth side line; a mile and a-quarter of a portion previously chopped out, now grubbed and graded, and the improvement of a hill opposite lot seventeen of the tenth concession, the latter costing over three hundred dollars.

UTTERSON BRIDGE.

A floating bridge six hundred and forty-three feet long built across "Long" or Weirs Lake on Utterson road in the township of Stephenson. It is formed of four heavy dry pine stringers, covering of two-inch pine plank fourteen feet long, and a hand railing its entire length.

WESTPHALIA ROAD.

An extension eastward between the second and third concessions of Himsworth from lot twenty-six, somewhat over half a mile.

## EAST DIVISION.

ABINGER AND MILLER TOWN LINE ROAD.

A road practically on the town line between Abinger and Miller and was built this year from the north end of lot number one concession five Abinger to lot number two in the third concession—two miles. Across the outlet of Yeoman's creek a bridge six hundred and seventy-five feet long with approaches was built upon rough piers ranging from four to fifteen feet high.

ADDINGTON ROAD.

Fifteen miles of repairs between Kaladar and Cloyne; two and a-half from the Mississippi road southward; and on the Mississippi and Addington Junction road three miles, twenty and a-half miles altogether.

ALICE 10 AND 11 CON. ROAD.

This work was chiefly putting in a large cedar culvert sixteen feet high and reducing the gradients of the hills upon each side to make the road passable.

ARDEN ROAD

Repairs from lot number twelve concession nine Kennebec eastward to lot five concession one, Olden; some six miles of general improvement.

BELMONT ROAD.

This road lies between Havelock station of the Canadian Pacific Railway, and Methuen Road, passing through the townships of Belmont and Methuen. The repairs made this season were over ten miles of the road from lot twenty-three, concession eight, Belmont northward. The county of Peterborough contributed $100 and the townships of Belmont and Methuen $50 towards the work.

BOBCAYGEON ROAD.

About fourteen miles were repaired, but the chief outlay was upon two heavy hills, one being seven miles, and the other about twelve miles south of Kinmount.

BONFIELD 4 AND 5 CON. ROAD.

This work was commenced at lot number eleven and continued westward a mile and a-half to a mill—a useful work and well done.

Bonfield 15 and 16 Side Line Road.

One mile well opened, ditched and graded through the ninth and tenth concessions.

Booth Road.

The construction of a mile and three-quarters from lot thirty-two in the fourteenth concession (end of last year's work) to lot twenty-six concession sixteen of the township of Anstruther.

Brennan's Creek Bridge.

A substantial bridge built over Brennan's creek near the village of Killaloe at a cost of $272.46 as certified by the reeve of the municipality. The grant of $100 is a contribution towards the same.

Bromley Proof Line Road.

This road is the line between lots nine and ten in concession eight of Bromley, and is a new work about one mile in length opened fairly well for the small sum of $152.37.

Buckhorn Road.

Six miles of repairs in the township of Cavendish and two miles on the southerly end of the road, and towards which latter and three miles of repairs made on the southerly end of the Burleigh road, the county of Peterborough and municipality of Smith contributed each $75.

Burleigh Road.

Through the townships of Burleigh and Chandos, twenty miles of repairs were effected and three miles at the south end of the road as mentioned in the preceding paragraph concerning Buckhorn road and the county and municipal grants.

Caldwell Road.

Four miles of construction beginning at lot five, concession six, Kirkpatrick, and continuing west to lot number one in the sixth concession of Dunnet—a valuable road.

Callender and North Bay Road.

From lot number four, concession seven of Ferris (and near the railway crossing) north-westerly to Thorncliffe station, a length of seven and a half miles, three miles have been graded and the balance chopped out twenty-five feet wide and fairly levelled. Two miles were new work, the balance repairs.

Calvin, 4 Con. Road.

Construction from lot number ten, concession four to lot number nine, concession two of the township of Calvin, a mile and three-quarters, a portion of which was roughly opened two years ago.

Cameron and Papineau Town Line Road.

About two miles of new work dating from the Pembroke and Mattawa road from whence work was continued southward down the boundary line to range "B" and passing it about three hundreds yards, and thence eastward bending northward however to avoid certain obstacles but returning to range "B."

Carlow Bridge.

On the Carlow road in the township of Carlow, replaces one built in 1874.

The present structure is two hundred and fifty-five feet long, resting on six piers and two abutments of various heights, the greatest being fourteen and least five feet, and the spans or openings twenty-three to thirty feet.

### Cavendish Roads.

The principal work in this instance was the extension of White Lake road to Buckhorn road, from the road allowance between lots twenty and twenty-one, concession fifteen northward through the eighteenth concession, nearly three miles, one-half of which was opened anew, and the balance general grading and ditching. Again from lot number three eastward along the eighteenth concession, six miles were well repaired and half a mile constructed, representing altogether about two miles of new road opened and seven and a-half repaired.

### Clare River Bridge.

The County Council of Lennox and Addington voted the sum of $800 for the purpose of making permanent approaches to his bridge which has been done in a satisfactory manner. The government grant is for the completion of the renewal, and the work is in progrees but not yet fully accomplished. A bridge was first built upon this site about thirty-three years ago and was renewed in 1874, so that the life of the bridge now replaced was eighteen years.

### Cobden Road.

Seven miles of repairs from one mile east of Cobden towards Eganville. This portion of road is upon a heavy clay flat and could only be premanently improved by gravelling which involved much team-work and long hauls.

### Dalton 25 and 26 Side Line Road.

This work is from the ninth concession northward for about two and a-quarter miles, three-fourths of a mile being completed and the balance only chopped, cross-wayed and brushed. Timber for piers of a bridge called "Kehoe's" is on the ground but owing to high water could not be built.

### Devil Lake Bridge.

This structure now under renewal is on Perth road and crosses an arm of Devil Lake near Bedford Mills. It is two hundred and sixteen feet long and was built by this Department in 1878. The winter season is selected for the work upon the report of the inspector that then it could be done more cheaply than in the summer.

### Douglas and Clontarf Road.

Two miles and a-half of road previously chopped out by the settlers and now made travelable. It is from the road between the sixteenth and seventeenth concessions of Grattan, from lot thirty one southward.

### Dummer 9 Con. Road.

This road is one leading from or near Norwood, northward to Stony Lake about fourteen miles. The work this season was between lots six and twenty-eight, some seven and a-half miles which have been materially improved, while it is reported as requiring further outlay before it can be said to be in good condition for general traffic. The County gave $50 and the Township of Dummer $50 towards the work.

### Eau Claire Road and Bridge.

A bridge three hundred and eighty-six feet long, built over Amable Du Fond River practically at Eau Claire station of the Canadian Pacific Railway, (lot 18 concession seven and eight Calvin).

The main portion is composed of two openings of forty-eight and forty-six feet, the balance being trestle work. An intervening island separates the work into two parts and hence the inhabitants have christened it "the Twin Bridges."

Its cost with the road-work and approaches exceed the appropriation somewhat but it is, notwithstanding, an excellent and cheap structure, carefully built according to plan and instructions.

### Fraser 5 and 6 Side Line Road.

One mile of new work from the road allowance between the eighth and ninth concessions of Fraser southward between lots five and six. It is cut out twenty feet wide and made generally passable throughout.

### Galway and Cavendish Roads.

Six miles of repairs and two miles of construction. The work was between the fourteenth and fifteenth concessions of Galway and Cavendish, the repairs being from lot seventeen of Galway eastward and the new work from lot number nine of Cavendish eastward to Buckhorn road.

In addition to the above, a road was brushed and roughly opened into Salmon Lake to give settlers means of access to the above road.

### Gannon's Narrow Road.

About four and a-half miles of repairs in the township of Ennismore, the County of Peterborough and Council of Ennismore contributing each $50.

### Grattan and South Algona Road.

This work is in the twentieth concession of Grattan between lots thirty and thirty one, consisting of one mile of repairs.

### Hagarty and Brudenell Road.

One mile graded through from lot seventeen to lot twenty-one, the road being on the sixteenth line of Brudenell.

### Hagarty 5 and 6 Con. Road.

A new road opened across lots twenty-six to thirty both inclusive. The work is between the sixth and seventh concession line, and not as above which was an error in the estimates. Eight miles were repaired in the townships of Sherwood and Jones of the Opeongo road, and is included in this expenditure.

### Hagarty 15 and 16 Side Line Road.

Another new piece of work a little less than three quarters of a mile long, extending from the town line between Hagarty and Brudenell, through concession "A" of Hagarty and between the lots indicated by the name which the road bears.

### Hastings Road.

Between Rathbun station and Bancroft fifteen miles were repaired, and again from McKenzie's Lake, which is about twelve miles north of Peterson road, ten miles northward were improved.

### Hydes' Chute and Sanson Road.

Six and a-half miles repaired from the point known as "Strain's Corners," to the Opeongo road. Many deviations were made and the road very much improved.

### Indian River Bridge.

This bridge was largely renewed as to its superstructure, new chords and new truss being introduced, and the entire structure raised two feet. It is situate on lot twenty-one, concession "A" of the Township of Alice.

### Lake Clear and Lyndoch Road.

Repairs in the Townships of Sebastopol and Lyndoch from Opeongo road southward five miles and a-half.

### Larchwood Road.

This road, or portion of one, was opened last year for winter use, and this season completed for more general traffic.

The work is from Larchwood station of the C. P. Railway eastward, following the railway along its limit one mile to the line between lots ten and eleven of the third concession of Balfour, thence south to the boundary between the above-named township and Creighton; thence east half-a-mile, and thence south to Chelmsford or Whitson Creek, the work ending on lot number ten in the sixth concession of Creighton, and covering about five miles.

### Loughboro' Lake Bridge.

A bridge spanning the narrows of Loughboro Lake on the Kingston and Perth road. A portion is being raised about five feet to allow the passage of steamers which may trade on these waters and which will doubtless be advantageous to residents and intending settlers.

### McKim 4 Con. Road.

This work is from lot number four of concession five eastward two miles, which have been fairly well graded throughout.

### Mattawa Road.

Repairs beginning at lot twenty-three and ending at thirty-eight in the township of Maria, a length of about six miles of satisfactory work.

### Mattawa and Callender Road.

Two and a-half miles have been very well graded, and an equal length repaired. Grading was begun at the end of last year's work, and continued westward towards Callender.

### Methuen Road.

Seven miles of repairs through the Township of Chandos.

### Mississippi Junction Bridge and Road.

The principal work was repairing and re-covering a bridge over Mississippi River about lot twenty-one between the first and second concessions of Palmerston. It is a large bridge, with two spans of sixty-five feet each, and was reduced in length eighty feet by permanent filling in.

Three miles of the road were also more or less repaired between the bridge and Mississippi road.

### Mountain Grove Road.

Repairs from Mountain Grove station on the Canadian Pacific Railway (lot 13 on line between concessions 2 and 3 Olden) south-westerly to lot number one in the first concession; altogether about seven miles. A number of culverts (13) were renewed, and the road generally very much improved.

### Mud Lake and Killaloe Road.

Two miles improved in Hagarty, and three and a-half from about half-a-mile west of the boundary between Algona and Grattan eastward, or five miles and a-half altogether.

### New Carlow Bridge.

A trestle bridge two hundred and twenty-five feet long built over Papineau Creek on lot number six in the thirteenth concession of the Township of Carlow.

### Nogey's Creek Road.

This road, which before was simply a trail, has been very materially improved over three miles beginning at lot number twenty-five in the seventeenth concession, and continuing northward to lot thirty-one, all in the Township of Harvey.

### North Bay and Nipissing Junction Road.

A road which completes connection between Mattawa and North Bay. The work is from the west side of lot eighteen, concession "D" Widdifield, eastward about a mile and a-half to the east side of lot number seventeen in the same concession, when the Trout Lake and Nipissing Junction road is reached. About half of the above road is graded; the balance, owing to unfavorable weather, was left good only for winter use.

### North Bay and Temiscamingue Road.

Eight and a-half miles of repairs from "B" concession of Widdifield north-eastward to the third concession. This portion of the road is now reported as in good condition.

### North Bay and Widdifield Road.

This work was chiefly a deviation on lot seventeen, concession "B" Widdifield, to avoid a very heavy hill, but the road was also more or less improved over five miles to Duchesnay Creek.

### North Harvey Road.

Construction was begun at lot number ten on the west side of the eighth concession of Harvey and continued to the east side of the seventh concession, a length of about two miles. In addition to this, substantial repairs were made from lot number twenty, concession ten, westward two miles.

### Nosbonsing Road.

Three miles were opened from lot number three of the fourth concession of Bonfield to lot twenty-three in the eighteenth concession of Chisholm, through rough and stony ground. One mile of the older portion was repaired.

### Nosbonsing and South East Bay Road.

Two and a-half miles of construction from Nosbonsing Lake, lot nineteen, concession two, Chisholm, to lot number twenty-five in the fourth concession of Ferris, and three miles of repairs additional in the latter township.

### Opeongo Road.

The repairs upon this road aggregate twenty-two miles, and were done in five different sections, extending from the Township of Admaston to eight miles west of Brudenell.

### Ottawa River and Mattawan 13 and 14 Con. Roads.

These two roads which, meeting together become practically one, are in the township of Mattawan. The work consisted altogether of four miles of substantial grading, beginning on the line between concessions ten and eleven at lot twenty-six, extending northward to lot twenty-four of concession fourteen, about two miles, and thence westward two miles.

### Palmer Rapids and Snake Creek Road.

A road in the Township of Raglan from the Palmer Rapids road on the south side of the Madawaska River eastward along the said river four miles, and thence southward five miles. The first four miles were repaired throughout, and on the second portion about three hundred and twenty yards of cross-waying were built, thus making a fair wagon road into the settlement which the road serves.

### Papineau, 12 and 13 Con. Road.

Three miles of repairs, two of which were ditched and graded and the balance grubbed, levelled and cross-wayed. The work is between lots twenty-one and thirty-one.

### Peterson Branch Road.

This road, which is a stage route and very much used, was repaired between Brudenell and the Madawaska River over ten miles of its length.

### Petewawa, 15 and 16 Side Line Road.

Five-eighths of a mile constructed from the fourth and fifth concession line southward, between the lots indicated. It is grubbed and levelled about eighteen feet wide and formed into a good highway.

### Powassan and Calender Road.

The construction of two miles, and repair of two more; the road now reaching to lot twenty-four of concession eleven, Chisholm. A bridge of two spans, twenty-eight feet and thirty-four feet, and requiring eighty-eight feet of covering was also built with the appropriation.

### Queen's Line Road.

The road allowance between lots fifteen and sixteen, Galway, and repaired between the tenth and twelfth concessions—a mile and a quarter. The line was a succession of gullies which made the distance almost impassable before the present improvements.

### Rayside Road.

A mile and a quarter opened from lot number six in the sixth concession, eastward. This highway is now built from Rayside station, north three and a half miles, and again east one mile, serving, it is understood, some seventy-five settlers, and if continued eastward into Blezard about two and a half or three miles further would reach another belt of farming land.

### Reid Road.

This is three miles of entirely new work, but necessarily of a cheap character, the sum at disposal being small. The road is mostly upon the blind line between the fifteenth and sixteenth concessions of Galway, which is opened to lot number sixteen. The county of Peterborough contributed $100, and the township of Galway $50, so that the government's outlay was only $219.23.

### Round Lake Road.

Repairs from lot twenty-eight, concession eight, Belmont, to lot twenty-seven, concession ten, one mile and three-fourths of a mile.

### Sandy Lake Road.

A road between Sandy Lake and Hall's Bridge, in the township of Harvey and approximately between lots seven and eight. Three and a half miles repaired.

### Somerville Road.

This work is on the eighth and ninth concession line of the township after which the road is named, and is from lot number five to number eight, a length of one mile. It opens for settlers and travellers a much shorter route to the railway and to Fenelon Falls than they had heretofore.

### South Algona Road.

The road allowance between the second and third concessions of South Algona and opened from lot number one westward to lot number six. One mile was entirely new work, the balance—half a mile—having been roughly opened at an earlier date.

### Stafford Road.

The ditching and grading of two miles in the southerly end of Stafford, between lots six and seven, through the third and fourth concessions.

### Stone Dam and Desert Lake Road.

This is a road about six miles long extending between lot number eight, in the eleventh concession of Portland and the north-east corner of the township, and continuing to lot number three, concession fourteen, Loughborough. Settlers had chopped out and made the road roughly passable, and this year the entire distance was graded, and a quarter of a mile deviation made through lot seven in concession twelve, Portland—an especially rough section.

### Stony Lake Road.

Five and a half miles of repairs on this road, which is practically on the line between lots twenty-nine and thirty, through concessions seven to twelve inclusive. The County of Peterborough and the Township of Dummer contributed each $25 to supplement the government grant of $100.

### Sturgeon Falls Road.

Between Verner Station and Sturgeon Falls, in the townships of Caldwell and Springer, nine miles of repairs were made, reaching within two miles of Sturgeon Falls.

### Sturgeon River Road.

A road now opened from Sturgeon Falls, north through the township of Springer to the south boundary of Field, and is on the line between lots numbered four and five. The last three miles is new work this season, while in addition, two miles were repaired through the second and third concessions.

### Sudbury Road.

Between Chelmsford and Sudbury nearly eleven miles were generally improved, and of construction one and a quarter mile was opened from the termination of last year's operations westward to meet Larchwood road previously described.

### Sudbury and Blezard Road.

Altogether about four miles of repairs were made, the principal work being, however, upon a low-lying portion, which, in order to protect it from flooding, was raised some eighteen inches for about three-quarters of a mile. The work is very highly spoken of.

### Sudbury and Neelon Road.

From lot number five, in the third concession of McKim, this road was extended eastward, following very nearly the railway line two and a half miles, two of which were fairly graded and the balance cut out and levelled.

### Sudbury and Whitefish Lake Road.

Six and a-half miles of work, four miles being almost new work and the balance repairs. Operations were from lot number five of the fifth concession of Waters southwesterly, following the general course of the railway towards Norton station, and now forming a fair highway from Sudbury to the end of this work.

### Trafford and Tamworth Road.

This road begins on the line between lots two and three in the thirteenth concession of the township of Sheffield, extending westerly to Tamworth, and the work this season was from the point of beginning westward one and a-quarter mile. The road had been opened by the settlers, but this was a low and difficult portion to build. The distance mentioned has been properly graded and made a good road.

### Trout Lake Road.

Three miles of road opened, one-half of which is properly graded and the balance chopped and made ready for grading and ditching. The work was commenced at lot fifteen, concession thirteen, Widdifield, and continued in an angling course to lot number nine.

### Veuve River Bridge.

A bridge now under construction over Veuve River between lots eight and nine in the fourth concession of Caldwell and practically at Verner station, Canadian Pacific Railway. It will be two hundred and six feet long with main span of fifty-eight feet

in the clear, two of thirty-six feet each, and approaches. It will rest upon pile piers, the piles being about fifty feet long, driven eighteen to twenty-six feet into clay and in water sixteen to eighteen feet deep, increasing in time of spring freshet to as much as twenty-five feet.

### Wahnapitae Road.

The improvement of what had in the past two years been opened as a rough winter road. Eight miles have been formed into a very fair general highway from near Wahnapitae station northward or nearly two-thirds of the distance between the station and lake of the same name.

### West Rideau Lake Bridge.

This bridge is situate on lot number nineteen in the ninth concession of Bedford, on the road between Fermoy and Westport, and is across a bay of West Rideau Lake the waters of which, in consequence of improvements by the Dominion Government on the Rideau Canal, had raised the water and flooded the road, damaging the bridge. The work consisted in the filling up permanently of four hundred and fifty feet of the bridge by an embankment three feet above the water line, leaving an opening or water-way of sixteen feet which was substantially bridged. Two miles of repairs were made eastward and a mile and a-half westward of the above bridge.

### Whitson Creek Bridge.

A bridge built over Whitson or Chelmsford Creek at the south end of Larchwood road, lot number ten, concession six, Creighton. Its length is eighty-three feet, width fourteen feet, main span thirty-five feet in the clear, resting on piers ten and thirteen feet high respectively. The piers are filled with stone, and the structure is firm and strong throughout.

### Wilberforce and North Algona T. L. Road.

This work is on the town line between the townships mentioned across the eighteenth and nineteenth concessions. The distance, one mile and a-quarter, which had been roughly chopped out by the settlers, is now graded and ditched,

### Wilberforce 20th and 21st Side Line Road.

A little below three-quarters of a mile of a new road made as a necessity to reach a German settlement, and is a continuation of a work commenced at an earlier period.

### Wisawasa Road.

The opening of two and a-quarter miles, beginning between lots nineteen and twenty in the third concession of Ferris, and ending at lot eleven in the fourteenth concession of Chisholm. The last mile is only chopped out and levelled, the balance is graded in addition.

### York River Bridge.

A new structure built over York River west of the Hastings road in the township of Herschel. Its length is one hundred and eight feet, having a main span of forty-eight and a-half feet, resting upon two cedar piers, and is reported as an excellent piece of workmanship throughout.

## SUMMARY OF EXPENDITURE ON COLONIZATION ROADS AND BRIDGES IN THE YEAR 1892.

| Name of work. | Departmental expenditure. | | Total departmental expenditure. | Municipal and other expenditure. |
|---|---|---|---|---|
| | Cash. | Supplies. | | |
| NORTH DIVISION. | $ c. | $ c. | $ c. | $ c. |
| Batchawaning ..... Road | 755 62 | ..... | 755 62 | |
| Bruce Mines and Desert Lake ..... " | 598 04 | ..... | 598 04 | |
| Cockburn Island ..... Roads | 499 67 | ..... | 499 67 | |
| Coffin ..... Road and Bridge | 502 09 | ..... | 502 09 | |
| Dorion ..... Road | 1,268 51 | ..... | 1,268 51 | |
| Echo River ..... Bridge | 991 14 | ..... | 991 14 | |
| Goulais River ..... " | 3,108 18 | 424 64 | 3,532 82 | |
| Grand Portage ..... Road | 814 29 | ..... | 814 29 | |
| Grassy River (balance of 1891) ..... " | 114 56 | ..... | 114 56 | |
| Great Northern ..... " | 950 00 | ..... | 950 00 | |
| Honora Bay ..... " | 992 44 | ..... | 992 44 | |
| Inspection (including part of 1891) ..... | 1,997 10 | ..... | 1,997 10 | |
| Iron Bridge ..... Road | 100 35 | ..... | 100 35 | |
| Kaministiquia ..... Bridge | 414 04 | ..... | 414 04 | |
| Manitoulin Island ..... Roads | 300 45 | ..... | 300 45 | |
| McKenzie Creek ..... Bridge | 150 02 | ..... | 150 02 | 69 87 |
| Ouimet and Black Bay (balance of 1891) ..... Road | 47 18 | ..... | 47 18 | 200 00 |
| Patton ..... " | 802 11 | ..... | 802 11 | |
| Pine River Road (balance of 1891) ..... " | 29 51 | ..... | 29 51 | |
| Point de Meuron ..... Bridge | 397 14 | ..... | 397 14 | |
| Rabbit Mountain and Whitefish Lake ..... Road | 1,041 38 | ..... | 1,041 38 | |
| Rainy River (balance of 1891) ..... " | 32 83 | ..... | 32 83 | |
| " ..... " | 6,242 09 | ..... | 6,242 09 | |
| " Trail ..... " | 40 00 | ..... | 40 00 | |
| Rat Portage and Keewatin (balance) ..... " | 19 42 | ..... | 19 42 | |
| " " ..... " | 598 14 | ..... | 598 14 | |
| Rat Portage and Rainy River (balance) ..... " | 14 98 | ..... | 14 98 | |
| Spanish River ..... " | 835 94 | 125 13 | 961 07 | |
| Ten Mile Point and Sandfield and West Bay ... " | 327 54 | ..... | 327 54 | |
| Thessalon and Bright ..... " | 198 08 | ..... | 198 08 | |
| Webbwood ..... " | 904 09 | 134 38 | 1,038 47 | |
| White River ..... Bridge | 500 00 | ..... | 500 00 | |
| | ..... | ..... | 26,271 08 | ..... |
| WEST DIVISION. | | | | |
| Ah-mic Harbour and Burk's Falls ..... Road | 393 67 | ..... | 393 67 | |
| Alsace ..... " | 403 94 | ..... | 403 94 | |
| Armour ..... " | 719 80 | ..... | 719 80 | |
| Baysville ..... Bridge | 1,210 00 | 89 11 | 1,299 11 | |
| Beaver Lake ..... Road | 1,350 00 | ..... | 1,350 00 | |
| Bethune, 10th and 11th side line ..... " | 499 16 | ..... | 499 16 | |
| Brunel ..... " | 309 00 | ..... | 309 00 | |
| Chaffey, 12th Concession ..... " | 378 54 | ..... | 378 54 | |
| Chisholm, 10th and 11th Concession ..... " | 497 05 | ..... | 497 05 | |
| Conger ..... " | 289 55 | ..... | 289 55 | |
| Dorset ..... " | 50 00 | ..... | 50 00 | |
| Eagle Lake ..... Bridge | 850 00 | ..... | 850 00 | |
| German ..... Road | 400 00 | ..... | 400 00 | |
| Indian Peninsula ..... Roads | 1,738 39 | ..... | 1,738 39 | |
| Inspection ..... | 1,509 65 | ..... | 1,509 65 | |
| Joly ..... Road | 527 25 | ..... | 527 25 | |
| Joseph River ..... Bridge | 121 56 | ..... | 121 56 | |
| Katrine (balance of 1890) ..... " | 10 03 | ..... | 10 03 | |
| Laurier ..... Road | 499 50 | ..... | 499 50 | |
| Lorimer Lake ..... " | 66 96 | ..... | 66 96 | |
| Machar, 5th and 6th side line ..... " | 508 83 | ..... | 508 83 | |
| McKellar, 10th and 11th Concession ..... " | 488 44 | ..... | 488 44 | |
| Mills and Wilson ..... " | 700 00 | ..... | 700 00 | |
| Muskoka ..... " | 1,362 01 | 44 75 | 1,406 76 | |
| Muskoka and Bobcaygeon ..... " | 810 90 | ..... | 810 90 | |
| Musquosh ..... " | 252 70 | ..... | 252 70 | |

## SUMMARY OF EXPENDITURE, ETC.—*Continued.*

| Name of work. | Departmental expenditure. | | Total departmental expenditure. | Municipal and other expenditure. |
|---|---|---|---|---|
| | Cash. | Supplies. | | |
| WEST DIVISION.—*Continued.* | $ c. | $ c. | $ c. | $ c. |
| New Jerusalem ..... Road | 455 24 | 44 75 | 499 99 | |
| Nipissing ..... " | 504 62 | ..... | 504 62 | |
| Northern ..... " | 500 00 | ..... | 500 00 | |
| Northwest ..... " | 75 00 | ..... | 75 00 | |
| Oakley ..... Bridge | 860 00 | 89 93 | 949 93 | |
| Old Man's Creek ..... " | 206 33 | ..... | 206 33 | |
| Parry Sound ..... Road | 490 42 | ..... | 490 42 | |
| Pile Hammer ..... | 50 00 | ..... | 50 00 | |
| Pringle ..... Road | 513 74 | ..... | 513 74 | |
| Seguin River ..... Bridge | 73 15 | ..... | 73 15 | |
| Shawanaga and Naiscoodtyonge (balance 1891). " | 21 40 | ..... | 21 40 | |
| Simpson ..... Road | 700 00 | ..... | 700 00 | |
| South Falls ..... Bridge | 341 97 | ..... | 341 97 | |
| South River ..... " | 500 00 | 44 58 | 544 58 | |
| Stisted ..... Road | 267 32 | ..... | 267 32 | |
| Strong Township ..... Roads | 894 32 | ..... | 894 32 | |
| Utterson ..... Bridge | 640 00 | ..... | 640 00 | |
| Westphalia ..... Road | 300 22 | ..... | 300 22 | |
| | ..... | ..... | 23,653 78 | |
| EAST DIVISION. | | | | |
| Abinger and Miller, T. L ..... Road | 498 13 | ..... | 498 13 | |
| Addington ..... " | 1,349 06 | ..... | 1,349 06 | |
| Alice, 10th and 11th Concession ..... " | 200 00 | ..... | 200 00 | |
| Anstruther (balance of 1891) ..... " | 11 23 | ..... | 11 23 | |
| Arden ..... " | 500 00 | ..... | 500 00 | |
| Belmont ..... " | 410 62 | ..... | 410 62 | 150 00 |
| Bobcaygeon ..... " | 774 68 | ..... | 774 68 | |
| Bonfield, 4th and 5th Concession ..... " | 480 00 | ..... | 480 00 | |
| Bonfield, 15th and 16th side line ..... " | 250 01 | ..... | 250 01 | |
| Booth (including balance of 1891) ..... " | 420 59 | ..... | 420 59 | |
| Brennan's Creek ..... Bridge | 100 00 | ..... | 100 00 | |
| Bromley Proof Line ..... Road | 152 37 | ..... | 152 37 | |
| Buckhorn ..... " | 1,198 29 | ..... | 1,198 29 | |
| Buckhorn and Burleigh ..... " | 173 25 | ..... | 173 25 | 150 00 |
| Burleigh (including balance of 1891) ..... " | 488 10 | ..... | 488 10 | |
| Caldwell " " ..... " | 825 84 | ..... | 825 84 | |
| Callender and North Bay ..... " | 690 00 | ..... | 690 00 | |
| Calvin, 4th Concession ..... " | 301 06 | ..... | 301 06 | |
| Cameron and Papineau, T. L ..... " | 502 17 | ..... | 502 17 | |
| Carlow ..... Bridge | 787 66 | ..... | 787 66 | |
| Cavendish ..... Roads | 608 21 | ..... | 608 21 | |
| Chandos (balance of 1891) ..... " | 13 12 | ..... | 13 12 | |
| Clare River ..... Bridge | 800 00 | ..... | 800 00 | |
| Cobden ..... Road | 775 84 | ..... | 775 84 | |
| Dalton, 25th and 26th side line ..... " | 395 25 | ..... | 395 25 | |
| Devil Lake ..... Bridge | 400 00 | ..... | 400 00 | |
| Douglas and Clontarf ..... Road | 500 00 | ..... | 500 00 | |
| Dummer, 9th Concession ..... " | 207 00 | ..... | 207 00 | 100 00 |
| Eau Claire ..... Road and Bridge | 1,310 04 | 87 26 | 1,397 30 | |
| Fraser, 5th and 6th side line ..... Road | 200 50 | ..... | 200 50 | |
| Galway and Cavendish ..... Roads | 859 85 | ..... | 859 85 | |
| Gannon's Narrows ..... " | 102 30 | ..... | 102 30 | 100 00 |
| Grattan and South Algona ..... " | 400 00 | ..... | 400 00 | |
| Hagarty and Brudenel ..... " | 406 82 | ..... | 406 82 | |
| Hagarty, 5th and 6th Concession ..... " | 700 00 | ..... | 700 00 | |
| Hagarty, 15th and 16th side line ..... " | 301 93 | ..... | 301 93 | |
| Hastings ..... " | 1,627 21 | ..... | 1,627 21 | |
| Hyde's Chute and Sanson ..... " | 569 61 | ..... | 569 61 | |
| Indian River ..... Bridge | 202 32 | ..... | 202 32 | |
| Inspection ..... Road | 2,971 90 | ..... | 2,971 90 | |
| Lake Clear and Lyndoch ..... " | 504 45 | ..... | 504 45 | |
| Larchwood ..... " | 1,366 25 | 106 63 | 1,472 88 | |
| Loborough Lake ..... Bridge | 200 00 | ..... | 200 00 | |

## SUMMARY OF EXPENDITURE, ETC.—*Concluded.*

| Name of Work. | Departmental expenditure. Cash. | Departmental expenditure. $ c. | Total departmental expenditure. | Municipal and other expenditure. |
|---|---|---|---|---|
| EAST DIVISION.—*Continued.* | $ c. | $ c. | $ c. | $ c. |
| McKim, 4th Concession.....Road | 304 50 | | 304 50 | |
| Mattawa ..... " | 480 00 | | 480 00 | |
| Mattawa and Callender ..... " | 799 14 | | 799 14 | |
| Methuen (including balance of 1891) ..... " | 350 03 | | 350 03 | |
| Mississippi (balance of 1891) ..... " | 19 62 | | 19 62 | |
| Mississippi Junction .....Bridge and " | 412 89 | | 412 89 | |
| Mountain Grove ..... " | 397 13 | | 397 13 | |
| Mud Lake and Killaloe ..... " | 761 19 | | 761 19 | |
| Murchison (balance of 1891) .....Bridge | 115 89 | | 115 89 | |
| New Carlow ..... " | 498 98 | | 498 98 | |
| Nogey's Creek.....Road | 313 67 | | 313 67 | |
| North Bay and Nipissing Junction..... " | 400 32 | | 400 32 | |
| North Bay and Temiscamingue ..... " | 601 00 | | 601 00 | |
| North Bay and Widdifield ..... " | 525 77 | | 525 77 | |
| North Harvey..... " | 763 82 | | 763 82 | |
| Nosbonsing ..... " | 916 40 | 84 20 | 1,000 60 | |
| Nosbonsing and Southwest Bay ..... " | 725 83 | | 725 83 | |
| Opeongo ..... " | 1,303 59 | | 1,303 59 | |
| Ottawa River and Mattawan, 13th and 14th Con. Roads | 805 58 | | 805 58 | |
| Palmer Rapids and Snake Creek .....Road | 740 15 | | 740 15 | |
| Papineau, 12th and 13th Concession ..... " | 499 97 | | 499 97 | |
| Peterson branch..... " | 400 00 | | 400 00 | |
| Petewawa, 15th and 16th side line ..... " | 200 00 | | 200 00 | |
| Powassan and Callender..... " | 874 66 | 125 13 | 999 79 | |
| Queen's Line ..... " | 322 49 | | 322 49 | |
| Rayside ..... " | 508 90 | | 508 90 | |
| Reid ..... " | 219 23 | | 219 23 | 150 00 |
| Round Lake ..... " | 208 06 | | 208 06 | 100 00 |
| Sandy Lake..... " | 113 28 | | 113 28 | 100 00 |
| Somerville ..... " | 125 08 | | 125 08 | |
| South Algona..... " | 402 00 | | 402 00 | |
| Stafford ..... " | 508 80 | | 508 80 | |
| Stone Dam and Desert Lake ..... " | 808 66 | | 808 66 | |
| Stony Lake ..... " | 106 75 | | 106 75 | 50 00 |
| Sturgeon Falls.. " | 480 00 | | 480 00 | |
| Sturgeon River, (including balance of 1891) .... " | 1,039 13 | | 1,039 13 | |
| Sudbury . ..... " | 791 35 | | 791 35 | |
| Sudbury and Blezard ..... " | 658 40 | | 658 40 | |
| Sudbury and Nelson..... " | 900 00 | | 900 00 | |
| Sudbury and Whitefish Lake..... " | 500 00 | | 500 00 | |
| Trafford and Tamworth..... " | 394 77 | | 394 77 | |
| Trout Lake... " | 600 00 | | 600 00 | |
| Veuve River.....Bridge | 950 00 | | 950 00 | |
| Wahnapitæ (including balance of 1891) .....Road | 1,818 82 | 287 31 | 2,106 13 | |
| West Rideau Lake .....Bridge | 590 51 | | 590 51 | |
| Whitson Creek..... " | 273 08 | | 273 08 | |
| Wilberforce and North Algona T. L .....Road | 399 75 | | 399 75 | |
| Wilberforce, 20th and 21st side line..... " | 199 55 | | 199 55 | |
| Wisawasa..... " | 867 07 | | 867 07 | |
| York River .....Bridge | 508 53 | | 508 53 | |
| | ..... | ..... | 53,730 53 | |

RECAPITULATION.

| — | Departmental expenditure. | Municipal and other grants. |
|---|---|---|
| | $ c. | $ c. |
| I. North Division | 26,271 08 | 269 87 |
| II. West Division | 23,653 78 | |
| III. East Division | 53,730 53 | 900 00 |
| Total Departmental Expenditure | 103,655 39 | |

MUNICIPAL AND OTHER GRANTS REFERRED TO IN SUMMARY.

| | |
|---|---|
| Municipality of Oliver | $69 87 |
| Ogema Mining Co | 200 00 |
| County of Peterborough | 550 00 |
| Harvey Township | 50 00 |
| Ennismore Township | 50 00 |
| Galway Township | 50 00 |
| Belmont and Methuen Townships | 50 00 |
| Smith Township | 75 00 |
| Dummer Township | 75 00 |

HENRY SMITH,
Superintendent of Colonization Roads.

Department of Crown Lands,
Toronto, 31st December, 1892.

## APPENDIX No. 36.

List of Persons to whom Culler's Licenses have been issued under The Ontario Cullers' Act, up to 31st December, 1892.

| Name. | P. O. Address. | Name. | P. O. Address. |
|---|---|---|---|
| Anderson, M. M | Almonte | Benson, John W | Sturgeon Bay |
| Allan, James D | Bracebridge | Beck, Charles M. jr | Penetanguishene |
| Appleton, Erwin B. | Bracebridge | Beatty, W. J. | Coldwater |
| Albert, Andrew | Ottawa | Burns, C. W. jr. | South River |
| Adams, J. Q. | Longford Mills | Bell, John Henry | Burk's Falls |
| Anderson, Patrick J | Campbellford | Bettes, John Hiram | Muskoka Mills |
| Anderson, J. C | Gravenhurst | Brady, John | Renfrew |
| Allan, Alfred | Ottawa | Beattie, W. J | Arnprior |
| Aikins, Geo. M | French River | | |
| Appleby, Ridley | Katrine | Callaghan, Dennis | Trenton |
| Adams, James M | Sault Ste. Marie | Campbell, Alexander J | Trenton |
| Aylward, James | Peterborough | Carson, James | Bracebridge |
| Archibald, John L | Keewatin | Campbell, J. M | Bracebridge |
| Austin, Wm. G. | Renfrew | Campbell, Robert | Bracebridge |
| Anderson, Charles | Little Current | Clairmont, Joseph | Campbellford |
| Anderson, John | Cartier | Clarkson, Robert J | Parry Sound |
| Adair, Thomas Albert | Gananoque | Carruthers, Aaron | Hintonburg |
| Anderson, J. G. | Alpena, Mich | Calder, Wm. J | Bark Lake |
| | | Chew, Joseph | Gravenhurst |
| Boland, Abraham | Cartier | Cole, James Colin | Ottawa |
| Brown, Singleton | Bracebridge | Cameron, William | Collins Inlet |
| Barry, Thomas James | Hastings | Cain, Robert | Midland |
| Blanchet, Paul Frederick | Ottawa | Crawford, Stephen W | Thessalon |
| Bird, W. S | Parry Sound | Cochrane, George. | Peterborough |
| Bayley, James T | Gravenhurst | Coburn, John | Lindsay |
| Bell, Henry | Ottawa | Crowe, Nathaniel | Bobcaygeon |
| Beach, Herbert Mahlon | Ottawa | Cameron, Alexander | Norman |
| Barry, Thomas | Millbridge | Chrysler, Frank R. L | Webbwood |
| Beaty, W. R. | Parry Saund | Carson, Hugh | Rat Portage |
| Brooks, Frederick William | Mackey's Station | Carson, Melvin | Little Current |
| Brown, Robert D. | Port Sydney | Cameron, John K | Spanish River |
| Breed, Arthur G | Penetanguishene | Cassidy, William. | Little Current |
| Barnes, Thomas George Lee | Muskoka Mills | Campbell, Archibald J | Little Current |
| Buchanan, Robert | Coldwater | Close, John L | Arnprior |
| Beck, Jacob Frederick | Penetanguishene | Campbell, James R | Eganville |
| Bird, Joseph Manly | Muskoka Mills | Campbell, John A | Galetta |
| Boyd, John F | Thessalon | Caillier, Hyacinthe | Arnprior |
| Brandon, Martin W | Peterborough | Chamberlin, Thomas | Bobcaygeon |
| Bell, John C | Peterborough | Cooper, David Allan | Millbrook |
| Bartlett, George W. | Warren | Cox, Henry | Bellerica, Que. |
| Brown, Silas. | Klock's Mills | Currie, James | Ottawa |
| Boland, W. G | Eganville | Clarkson, A. E | Midland |
| Baulke, George R | Aylmer, Que. | Clairmont, E | Gravenhurst |
| Bromley, Thomas | Pembroke | Cameron, W F | Sturgeon Bay |
| Bremner, John L | Admaston | Connelly, Daniel | Gravenhurst |
| Bromley, W. H | Pembroke | Campbell, P. C | Sault Ste. Marie |
| Bowers, Isaac | Little Current | Cadenhead, Alexander | Midland |
| Brown, Thomas | Barrie | Carpenter, R J | Arnprior |
| Bass, Walter R. | West Huntingdon | Christie, William Pringle | Severn Bridge |
| Bates, Robert | Rat Portage | | |
| Bick, Thomas | Bobcaygeon | Durrill, John W | Ottawa |
| Bray, James | Kinmount | Dickson, John | Sundridge |
| Bissell, George Thomas | Trenton | Danter, R. W | Parry Sound |
| Baxter Richard | Deseronto | Doyle, T. J | Eau Claire |
| Breeaugh, Edward | Deseronto | Dobie, Alexander R | Blind River |
| Boyd, George A | Thessalon | Donally, Richard S | Sudbury |
| Buchan, Frederick | Arnprior | Devine, William | Cook's Mills |
| Barrett Patrick | Arnprior | Durrill, William | Nosbonsing |
| Brundage, Alfred W | Pembroke | Draper, Patrick | Quyon, Que. |
| Brougham, Thomas | Eganville | Davis, J. P | Bobcaygeon |
| Blair, Robert J | Arnprior | Drum, Patrick | Belleville |

APPENDIX No. 36.—*Continued.*

| Name. | P. O. Address. | Name. | P. O. Address. |
|---|---|---|---|
| Durham, Edgar S | Rosseau | Harett, James | Gilmour |
| Duquette, Charles | Wetbwood | Hayes, James | Enterprise |
| Davis, William Albert | Bobcaygeon | Huckson, A. H | French River |
| Dickson, Robert Alexander | Keene | Howe, Alexander | Queensborough |
| Dawkins, John | Gravenhurst | Hurd, Edwin | Hurdville |
| Doxsee, James E | Gravenhurst | Hoff, J. S. Morris | Arnprior |
| | | Hutton, John | Hutton House |
| Ebert, Andrew P | Pembroke | Hutchinson, Wm. E | Huntsville |
| Ellis, Alexander | Arnprior | Hogarth, Joseph Rowan | Pembroke |
| Ellis, John | Westmeath | Humphrey, John | Gravenhurst |
| | | Hill, Joshua | Midland |
| Forbes, Christopher McKay | McLean's Depot | Hall, David | Lovering |
| Fitzgerald, E. Clair | Parry Sound | Hartley, Charles | Peterborough |
| Farrell, W. H | Ironside, Que. | Helferty, Dennis | Eganville |
| French, Louis Wm | Byng Inlet | Hamilton, Robert | Rat Portage |
| Freeston, Walter | Burk's Falls | Hoppins, Abiram | Kingston |
| Fraser, William A | Mattawa | Hoppins, Densmore | Kingston |
| Fortune, Owen | Trenton | Haystead, John | Parry Sound |
| Fraser, David | Norman | Henderson, John Irwin | Bobcaygeon |
| France, John | Collins Inlet | Hartley, William | Millbridge |
| Ford, Charles | Wahnapitae | Higgins, John C | Peterborough |
| Fraser, Alexander, jr | Westmeath | Humphrey, T. W | Gravenhurst |
| Fairbairn, William | Calabogie | Harrison, John, jr | Pembroke |
| Fraser, Wm. A | Pembroke | Hawkins, E | Le Breton Flats |
| Fraser, Foster | Pembroke | Henderson, Charles | Bracebridge |
| Fraser, William | Little Current | Halliday, Frank | Mississippi |
| Fraser, Hugh Alexander | Pembroke | Halliday, James | Springtown |
| Flaherty, John | Lindsay | | |
| Fisher, William | Trenton | Irwin, Thomas H | Parry Sound |
| Fox, Thomas | Deseronto | | |
| Fallis, James W | Sturgeon Bay | Jackson, Robert | Brechin |
| | | Johnson, Finlay | Bracebridge |
| Green, Norman A | Gilmour | Jones, Albert | Victoria Harbor |
| Green, Samuel E | Parry Sound | Johnson, Thomas | Bobcaygeon |
| Grant, John | Flinton | Johnston, Archibald M | Norman |
| Greene, Arthur | Ottawa | Julien, Charles | Trenton |
| George, R. W. | Parry Sound | Junkin, Henry | Marmora |
| Gardiner, John | Parry Sound | Johns, Frank | Nipissing Junction |
| Golden, Frank Jay | Trenton | Jessup, Edward D | Cache Bay |
| Garson, Robert | Thessalon | Johnson, Frank N | Ottawa |
| Gropp, August | Penetanguishene | Johnston, John | Peninsula Lake |
| Grozelle, Antoine D | Muskoka Mills | Johnson, S. M | Arnprior |
| Goulais, James | Peterborough | | |
| Grayson, Charles | Keewatin | Kerby, John | Belleville |
| Gladstone, Henry E | Cook's Mills | Kennedy, Robert | Marmora |
| Graham, Edward G | Wahnapitae | Kirby, Louis Russell | Ottawa |
| Griffin, James | Spanish River | Kenny, Timothy | Enterprise |
| Gordon, Alexander B | Pembroke | Kirk, Henry | Trenton |
| Gareau, Noah J | Pembroke | Knox, Milton | Ottawa |
| Gordon, Robert W | Pembroke | Kinsella, Michael Pierce | Trenton |
| Guertin, Nelson | Petawawa | Kitchen, D | French River |
| Gunter, Peter M | Gilmour | Kelly, Jeremiah | Sudbury |
| Glennie, William | Millbridge | Kelly, Ferdinand | Mattawa |
| Gardner, John | Rat Portage | King, Napoleon | Mattawa |
| Gorman, Maurice J | Fenelon Falls | Kean, B. F | Orillia |
| Gillies, John A | Braeside | Kemp, Orval Wesley | Trenton |
| Gadway, John | Parry Sound | Kirk, Charles Barron | Queensborough |
| Garrow, Edward | Nipissing Junction | Kingsland, W. P | Ottawa |
| Gaudaur, Antoine Daniel | Orillia | Kerr, John B | Arnprior |
| Golding, William | Dorset | Kennedy, Walter | Arnprior |
| | | Kennedy, John | Pembroke |

APPENDIX No. 36.—*Continued.*

| Name. | P. O. Address. | Name. | P. O. Address. |
|---|---|---|---|
| Lloyd, Alfred | Severn Bridge | McPherson, James S | Rama |
| Lawrie, Frank A | Parry Sound | McKinley, Edward C | Toronto |
| Latimer, James | Frank's Bay | McClelland, John | Parry Sound |
| Lemyre, Middey | Campbellford | McFarlane, J. W | Cache Bay |
| Lutz, Jacob | Parry Sound | McDonald, Roderick | Pembroke |
| Luby, John E | Ottawa | McCormack, William | Pembroke |
| Lochnan, James | Ottawa | Macpherson, John | Ottawa |
| Lozo, John | Trenton | McEachern, John A | West Gravenhurst |
| Loughrin, Lawrence | Pembroke | McLeod, Dugald | Gravenhurst |
| Linton, J. H | Parry Sound | McClelland, R. H | Parry Sound |
| Ludgate, James | Peterborough | McEvoy, Frank' | Campbellford |
| Lynch, W. H | Collingwood | McDermott, Peter | Orillia |
| Lee, Robert | Huntsville | McIlroy, John | Madoc |
| Longford, Mark | Baysville | McNabb, Robert J | Parry Sound |
| Letherby, Edwin | Midland | McFadden, James | Ottawa |
| | | McIntosh, James G | Carleton Place |
| Lovering, William James | Coldwater | McInnis, Hector D | Bracebridge |
| Lane, Maurice | Bobcaygeon | McKinnon, Malcolm | Bracebridge |
| Lenton, George | Peterborough | McLean, Daniel | Bracebridge |
| Low, Thomas A | Renfrew | McKinnon, Archie J | Bracebridge |
| Livingstone, Robert M | Huntsville | McKay, D. C | Baysville |
| Londry, William E | Sault Ste. Marie | McDonald, James | Parry Sound |
| Labelle, James | Waltam, Que. | McPherson, Allan | Longford |
| Labelle, Eli | Waltam, Que. | McDonald, James P | French River |
| Ladurante, J. D | Ottawa | McFarland, Joseph C | Fort Severn |
| Ludgate, Theodore | Peterborough | McNabb, Alexander | Thessalon |
| | | McGillivary, Archibald | Port Arthur |
| Malloy, Mark | Baysville | McGrane, Edward | Lindsay |
| Miller, R. O | Gravenhurst | McLeod, Donald, jr | Keewatin |
| Menzies, Archibald | Burk's Falls | McDonald, Hector R | Thessalon |
| Manning, James | Trenton | McDougall, Duncan | Bracebridge |
| Martin, Philip | Stoco | McNabb, Alexander D | Warren |
| Malone, William Patrick | Ottawa | McCormack, John C | Sudbury |
| Marsh, Esli Terrill | Trenton | McNamara, John | Byng Inlet |
| Millar, John W | Huntsville | McGillivray, Duncan D | Algoma Mills |
| Mutchenbacker, Asa | Rosseau Falls | McIntyre, Daniel A | Klock's Mills |
| Morris, George F | Frank's Bay | McNamara, Lewis | Klock's Mills |
| Murray, George, jr | Waubaushene | McDonald, Sidney C | Mattawa |
| Maughan, Joseph | Fort William | McCool, Christopher L | Cartier |
| Margach, William J | Port Arthur | McCallum, Donald | Arnprior |
| Murray, George, sr | Waubaushene | McGregor, Duncan | Burnstown |
| Maniece, William | Peterborough | McLean, Peter W | Sand Point |
| Murray, William | Rat Portage | McManus, John C | Arnprior |
| Morgan, Richard J | Rat Portage | McNab, Alexander | Arnprior |
| Magee, Thomas Arthur | Rat Portage | McFarlane, Alexander | Renfrew |
| Murdoch, James | Cook's Mills | McFarlane, J. D | Stewartsville |
| Munroe, Peter P | Commanda | McFarlane, Duncan | Renfrew |
| Mason, Benjamin | Westmeath | McKendry, Wm. B | Arnprior |
| Monaghan, John B | Arnprior | McPhee, Hugh | Renfrew |
| Monaghan, M. J | Arnprior | McPhee, John | Arnprior |
| Mulvihill, John | Arnprior | McLachlin, Peter | Arnprior |
| Moran, Andrew | Rockingham | McLachlin, Alexander | Arnprior |
| Mulvinill, Michael | Arnprior | Mackey, Edward | Arnprior |
| Mann, John | Manitowaning | McKewen, Henry | Trenton |
| Marrigan, Richard | Deseronto | McDonald, Alfred | Peterborough |
| Monaghan, John Dorland | Deseronto | McGeary, John J | Sundridge |
| Matheson, William | Chelmsford | McDonald, Archibald W | Gilmour |
| Munro, Alexander G | Braeside | McCaw, John Gillen | Queensborough |
| Munro, Philip | Braeside | McCauley, Barney | Trenton |
| Maugan, Patrick | Arnprior | McDougall, James T | Klock's Mills |
| Marcil, Peter | Ottawa | McInenly, Thomas | Quebec, Que. |
| Main, Samuel | Spanish Station | McBride, Archibald | Arnprior |
| Morley Charles | Huntsville | McFarlane, Robert L | Arnprior |
| Moore, David Henry | Peterborough | McGown, William | Parry Sound |
| Murphy, John | Arnprior | McGown, Thomas | Parry Sound |

APPENDIX No. 36.—*Continued*.

| Name. | P. O. Address. |
|---|---|
| McDermet, Patrick | South River |
| McKay, Angus | South River |
| McDonald, A. J | Longford |
| McInnes, Angus D | Gravenhurst |
| McKendry, Alexander | Waubaushene |
| McGuire, Timothy | North Bay |
| McGrath, John | Peterborough |
| McWilliams, John Bannon | Peterborough |
| McCagherty, Patrick | Westmeath |
| McKendry, Daniel | Arnprior |
| Newton, Frank | Gravenhurst |
| Newburn, William | Parry Sound |
| Niblett, James | Arnprior |
| Niblett, Robert | Osceola. |
| Newell, John H | Parry Harbor |
| Overend, George J | Longford Mills |
| O'Brien, Andrew | Ottawa |
| O'Connor, John | Hintonburg |
| Oliver, Darcy | Wahnapitae |
| O'Connor, William | Nosbonsing |
| O'Neill, James W | North Bay |
| O'Donnell, William | Penetanguishene |
| Owens, Richard | Basin Depot |
| O'Reilly, Patrick | Cartier |
| Pomeroy, Peter | Trenton |
| Perry, Pringle K | Byng Inlet North |
| Purcell, William G | Ottawa |
| Purvis, John | Parry Sound |
| Pattinson, Thomas | Bracebridge |
| Porter, James | Uphill |
| Pearson, John James | Lindsay |
| Paterson, John | Wahnapitae |
| Paterson, Alexander | Orillia |
| Paquette, Oliver | Webbwood |
| Palmateer, Sherman | Gravenhurst |
| Paget, George | Huntsville |
| Richardson, Frederick George | Trenton |
| Richards, Richard | Tamworth |
| Riddell, George Alexander | Rochesterville |
| Richey, Evan | Brentwood |
| Randell, Louis D | French River |
| Richardson, Charles Mervyn | Trenton |
| Rochester, Daniel Baillie | Ottawa |
| Riddell, James | Ottawa |
| Rice, Asa A | Hull, Que. |
| Roberts, T. A | Huntsville |
| Ross, Andrew | Longford Mills |
| Rose, Donald M | Rat Portage |
| Rawson, Charles Edgar | Coldwater |
| Ross, George | Waubaushene |
| Roberts, Percy T | Keewatin |
| Ritchie, William D | Little Current |
| Ramsay, Robert | Arnprior |
| Ritchie, J. F | Arnprior |
| Ritter, Samuel G | Ah-Mic Harbor |
| Robinson, William | Bobcaygeon |
| Reid, Joseph B | Lindsay |
| Ross, Walker M | Ottawa |
| Ruttle, H. A | Carleton Place |
| Richards, Benedict | Ottawa |
| Regan, John | Orillia |
| Russell, William | Pembro |

| Name. | P. O. Address. |
|---|---|
| Scanlin, William | Enterprise |
| Sutherland, D. H | Gravenhurst |
| Spanner, John | Huntsville |
| Shier, James D | Bracebridge |
| Spooner, W. R | Katrine |
| Simpson, Alfred E | Wakefield |
| Souliere, John B | Ottawa |
| Shiels, James A | Carleton Place |
| Spargo, George | Ottawa |
| Smyth, W. H | Byng Inlet North |
| Salmon, R. H | Baysville |
| Sheehan, Peter F | Loring |
| Stremer, A | Ottawa |
| Shields, Frank A | Parry Sound |
| Smyth, Job E | Cache Bay |
| Sage, Nelson | Muskoka Mills |
| Shaw, Thomas B | Waubaushene |
| Swanston, James | Peterborough |
| Simpson, William | Hall's Bridge |
| Sadler, Thomas | Lindsay |
| Smith, Patrick Albert | Norman |
| Snaith, William J | Mattawa |
| Sinn, Wm. F | Arnprior |
| Scrim, Robert | Arnprior |
| Salmon, Alexander C | Baysville |
| Sharp, James A | Sudbury |
| Shanacy, Harry S | Cook's Mills |
| Smith, William | Ottawa |
| Stewart, Daniel | Braeside |
| Sheehan, Michael H | Waubaushene |
| Scott, Thomas | Parry Sound |
| Smith, Lawrence | WestSaginaw,Mich. |
| Shea, Stewart | Campbellford |
| Sullivan, John | Sudbury |
| Sinclair, Finlay | Sudbury |
| Shiels, Henry F | Cartier |
| Smith, Gideon Onsley | Burk's Falls |
| Smith, John Wallis | Thedford |
| Smith, Henry G | Arnprior |
| Tait, Thomas B | Burk's Falls |
| Taylor, C. N | Gravenhurst |
| Thornton, W. D | Longford Mills |
| Trussler, Gilbert | Trout Creek |
| Thompson, George S | Lindsay |
| Thomson, Frederick, A. H | Callander |
| Thomson, Francis Henry | Nosbonsing |
| Tuffy, John | Cartier |
| Train, A. C | Rowan Mills |
| Turgeon, George | Cook's Mills |
| Thomson, Alexander W | Arnprior |
| Taylor, Thomas G | Gravenhurst |
| Tait, Ralph | Arnprior |
| Udy, Dean | French River |
| Vigrass, Percy J | Dufferin Bridge |
| Vincent, Joseph | Warren |
| Vollin, Samuel | Nosbonsing |
| Vannier, Nelson Joseph | Bobcaygeon |
| Watson, William | Huntsville |
| Webb, George W | Parry Sound |
| Wilcox, Thomas | Parry Sound |
| Wheeler, J. A. McL | Tamworth |
| Ward, Joseph W | Ottawa |

APPENDIX No. 36.—*Concluded.*

| Name. | P. O. Address. | Name. | P. O. Address. |
|---|---|---|---|
| Wilkinson, William | French River | White, James B | Manitowaning |
| Waldie, John E | Victoria Harbor | Wilson, James A., Jr | Webbwood |
| Wigg, Thomas G | Thessalon | Whaley, Thomas | Huntsville |
| Wall, Patrick B | Cheboygan, Mich. | Webster, William Alfred | Bracebridge |
| Wells, John R | Little Current | | |
| Whiteside, John | Huntsville | Young, William | Severn Bridge |
| Watt, William | Peterborough | Young, A. J | Cache Bay |
| Wilson, George | Lindsay | Young, Samuel | Coldwater |
| White, Thomas | Parry Sound | Young, Patrick P | Young's Point |
| Watson, William | North Bay | Yuill, Thomas | Arnprior |
| Weston, Frank R | Midland | Yuill, A. D | Braeside |
| | | Total | 507 |

AUBREY WHITE,
Assistant Commissioner.

Department of Crown Lands,
Toronto, December 31st, 1892.

# REPORT

OF THE

# DEPARTMENT OF IMMIGRATION

FOR THE

# PROVINCE OF ONTARIO,

FOR THE YEAR

# 1892.

*PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.*

*TORONTO*:
PRINTED BY WARWICK & SONS, 68 AND 70 FRONT STREET WEST.
1893.

*To His Honour the Lieutenant-Governor of Ontario :*

The undersigned has the honour to present to Your Honour the Annual Report of the Department of Immigration for the year ending December 31st, 1892.

Respectfully submitted,

JOHN DRYDEN,
Commissioner of Immigration.

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# REPORT

OF THE

# IMMIGRATION DEPARTMENT,

FOR THE YEAR ENDING 31ST DECEMBER,

1892.

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*To the Honourable* JOHN DRYDEN, M.P.P.,

*Commissioner of Immigration.*

SIR,—I have the honour to submit the following report on the operations of the Immigration Department for the twelve months ending 31st December, 1892.

As compared with 1891, there was a decrease of 2,564, and with 1890, of 3,655, in the number of immigrants reported as having settled in this Province during 1892, the total number being 7,771. Some of the causes for the continued falling off noticed in last year's report continued to operate during the season of 1892; while the cholera infection in many parts of Europe materially diminished the number which might otherwise have been expected in the third and fourth quarters, as a reference to the tables will shew that the decrease from 1891 occurred mainly during the last six months of the year.

Another cause for the smallness of this year's return may be found in the fact that there has necessarily been a change in the mode of compiling immigration statistics, consequent on the closing of the Dominion agencies in this Province on the 30th June last. Since that date this Department has had to rely exclusively on the returns furnished by the Dominion agents at Montreal, Quebec, and Halifax, and I here take occasion to acknowledge the prompt attention of these gentlemen, as well as the courtesy of the Department of the Interior, in placing the Dominion returns at my disposal. From the date named, the returns of arrivals by way of the United States were entirely discontinued, which of course makes a material reduction in the total. The enumeration of immigrants with the customs entries of settlers' goods having ceased at the same time,

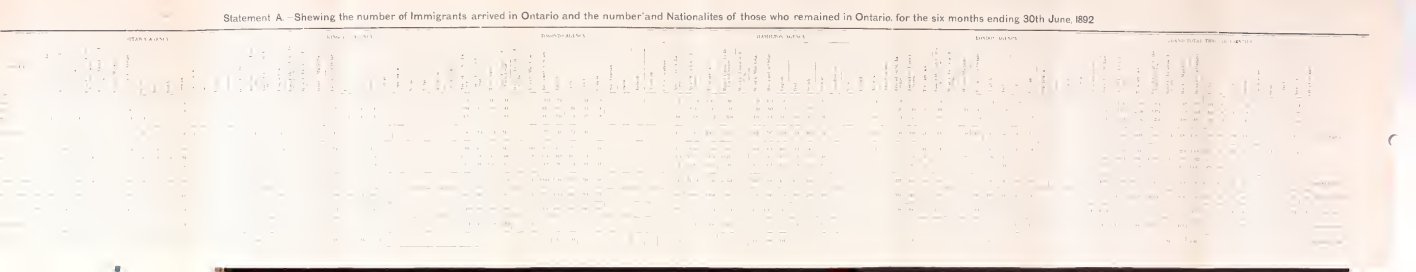
the publication of the returns from that source (never heretofore included in the table of arrivals and departures), has had to be discontinued. But, though the Customs Department ceased to collect these statistics after the first six months of the year, returns received from about one-half the ports of entry which furnished this information in former years have warranted the estimate that during 1892 the settlers so entered numbered about 7,000, or nearly the same as in the previous year. In compiling the returns from July 1st to December 31st, it has been impossible to give the nationalities of the settlers in Ontario, apart from those going to other provinces or the United States. It will be noticed that for the same period there are 2,135 whose destinations are not ascertained. It is probable, therefore, that while there was undoubtedly a great falling off in the number who settled in this Province during the latter half of the year, the actual decrease may not have been quite so large as the figures given would indicate.

By the withdrawal of the Dominion Immigration Agencies from Ontario a considerable amount of additional work has been thrown upon this office, though with respect to farm hands the difficulty has not been to find them situations on arrival, but rather to find immigrants to supply the current demand. With the view of promoting the speedy placing of immigrants and of facilitating correspondence with farmers and others seeking their services, a printed blank form of application has been prepared, which employers can fill in with necessary particulars. This form was introduced when the Dominion agencies ceased operations and has so far proved very satisfactory, except that, especially during the fall months, the number of applications was far in excess of the supply and many farmers were disappointed because their orders could not be filled.

A new edition of the pamphlet, "Ontario as a Home for the British Tenant Farmer," enlarged, revised and corrected to date, for the information of intending settlers either on Government lands or in the older settled portions of the Province, was issued before the close of the year, and a supply for distribution forwarded to the Ontario agency in Liverpool. In his last annual report the Ontario agent, Mr. P. Byrne, stated that there had arisen "a demand for pamphlets for quite a novel purpose, namely, to be used as reading books in country schools. After having read them through in the school, the children are allowed to take them home to their parents." The new edition will serve this most excellent purpose more effectually than the old one (which is now exhausted), as it contains more detailed information concerning the resources of the Province, and, like the previous issue, is designed to promote only the immigration of the agricultural classes, and of those seeking profitable investment for capital.

The forecast in last report that there would be a greater scarcity of agricultural laborers than usual was fully borne out by this year's experience. The efforts to promote immigration from this Province to Manitoba and the North-West Territories are continued with energy, thus maintaining the drain upon the classes more or less directly engaged in the labors of the farm. On the other hand the sources of supply are no less certainly affected by influences which tend to divert the stream of immigration from Ontario. The bonus paid by the Dominion Government to immigrants (not being Canadians) who settle in these western regions, induces immigrants from Europe to pass by this Province, while the greatly reduced rates at which through tickets are issued at

Statement A.—Shewing the number of Immigrants arrived in Ontario and the number and Nationalites of those who remained in Ontario, for the six months ending 30th June, 1892



inations and occupations so far as

| | | | OCCUPATIONS. | | | |
|---|---|---|---|---|---|---|
| | Russians and Jews. | Other Countries. | Farmers. | Farm and other laborers. | Mechanics. | Clerks. |
| 0 | 173 | 802 | 139 | 2,082 | 98 | 34 |
| 8 | 131 | 381 | 107 | 1,329 | 119 | 18 |
| .. | 114 | 23 | 69 | 972 | 87 | 26 |
| .. | ..... | 4 | 47 | 760 | 49 | 17 |
| 9 | ..... | 62 | 72 | 639 | 40 | 9 |
| .. | .. .... | 158 | 33 | 817 | 66 | 52 |
| 7 | 418 | 1,430 | 467 | 6,599 | 459 | 156 |

Statement B. Shewing the Number and Nationalities of the Immigrants landed at Halifax, Quebec and Montreal, and their destinations and occupations so far as ascertained, for the six months ending December, 31st, 1892.

| MONTH. | ARRIVALS. | | | | DESTINATIONS. | | | | | | NATIONALITIES. | | | | | | | | | OCCUPATIONS. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Arrivals at Halifax. | Arrivals at Quebec. | Arrivals at Montreal. | Total arrivals. | United States. | Maritime Provinces. | Quebec. | Ontario. | N. W. T. and B. C. | Not ascertained. | English. | Irish. | Scotch. | German. | Scandinavian. | French and Belgian. | Icelandic. | Russians and Jews. | Other Countries. | Farmers. | Farm and other laborers. | Mechanics. | Clerks. |
| ... ... ..... | 301 | 4,283 | 1,164 | 5,748 | 2,529 | 102 | 351 | 645 | 1,323 | 738 | 1,859 | 129 | 192 | 351 | 1,908 | 454 | 180 | 173 | 802 | 139 | 2,082 | 98 | 34 |
| ost ..... | 320 | 2,782 | 906 | 4,008 | 1,500 | 183 | 363 | 361 | 734 | 867 | 1,799 | 154 | 202 | 237 | 907 | 89 | 108 | 131 | 381 | 107 | 1,329 | 119 | 18 |
| ember. ..... | 286 | 2,508 | 122 | 2,916 | 952 | 141 | 633 | 598 | 466 | 126 | 1,580 | 113 | 149 | 64 | 811 | 62 | ..... | 114 | 23 | 69 | 972 | 87 | 26 |
| ober ..... | 178 | 1,690 | 235 | 2,203 | 383 | 119 | 494 | 189 | 423 | 355 | 1,529 | 98 | 110 | 5 | 499 | 18 | ..... | ..... | 4 | 47 | 760 | 49 | 17 |
| ember ..... | 845 | 613 | 117 | 1,575 | 769 | 136 | 205 | 167 | 249 | 49 | 707 | 62 | 3 | 53 | 659 | 20 | 9 | ..... | 62 | 72 | 630 | 40 | 9 |
| ember ..... | 1,694 | ... | ... | 1,694 | 1,046 | 194 | 121 | 165 | 168 | ..... | 489 | 19 | 3 | 150 | 817 | 67 | ... | ... | 158 | 33 | 817 | 66 | 52 |
| Totals..... | 3,624 | 11,876 | 2,704 | 18,204 | 7,179 | 935 | 2,167 | 2,425 | 3,363 | 2,135 | 7,964 | 575 | 659 | 860 | 5,601 | 710 | 297 | 418 | 1,430 | 467 | 6,590 | 459 | 156 |

| | |
|---|---|
| Number settled in Ontario during first six months of 1892, as per Statement "A." | 5,346 |
| Total number in 1892 | 7,771 |
| Total number in 1891 | 10,335 |
| Decrease in 1892 | 2,564 |

European ports to the same regions have a similar tendency, and the recent advance of $4 per head on the ocean passage will no doubt reduce the general inflow of population to this continent. These facts point strongly to the probability that the immigration of next season will rather fall short of than exceed the requirements of the Province.

The immigrants arriving during the year were generally of a desirable class, though the number of experienced farm hands was rather fewer in proportion than in former years. As a set-off to this, however, it is satisfactory to have to note that the feeble and unprofitable class, supplied mainly from the east end of London through the agency of philanthropic societies, had very few representatives among the immigrants reporting at this office during 1892. An instance or two of members of the criminal class so sent out might be mentioned, but upon the whole the falling off in the number of undesirable immigrants has been gratifying. The juvenile immigration in 1892 to the several "Homes" in the Province shews a total of 1,552, being an excess of 129 over that of 1891. The placing of these children is carried on without the intervention of this Department.

The demand for farm laborers continued in excess of the supply throughout the whole year. There was also an increased enquiry for men with families, there appearing to be more cottage accommodation in the rural districts than in former years. Wages were a shade higher, and the custom of making yearly engagements seems to be gradually coming into greater favor. Many families with grown up boys and girls could find advantageous locations in those districts of the Province where fruit growing and the canning industry are extensively carried on. With respect to inexperienced hands, there is on the part of our farmers generally a strong objection to city bred lads (especially "Londoners"), but youths brought up in the country, though unacquainted with the practical methods of agriculture, if physically capable and willing to learn, are in constant requisition at fair rates of wages. Very few domestics, either for city or country service, are now found among the immigrants, the immigration of this class having almost entirely ceased, through the operation of various causes, referred to in former reports. As a consequence of the long continued inability of the Department to supply the demand to any appreciable extent, the enquiry for them has almost entirely ceased, though it would unquestionably revive on short notice were the public advised that they could be obtained on application. There is, however, no present prospect of a revival of the immigration of this class.

The following is a statement of the number of immigrants settled in the Province of Ontario, with their nationalities, during the years 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891 and 1892 respectively:—

| Year. | English. | Scotch. | Irish. | German. | Other countries. | Total. |
|---|---|---|---|---|---|---|
| 1878 | 6,124 | 1,785 | 1,551 | 620 | 2,975 | 13,055 |
| 1879 | 12,169 | 2,894 | 3,993 | 1,450 | 3,901 | 24,407 |
| 1880 | 7,980 | 3,027 | 4,518 | 1,197 | 2,569 | 19,291 |
| 1881 | 7,704 | 3,070 | 4,521 | 1,274 | 1,664 | 18,233 |
| 1882 | 10,873 | 3,173 | 6,322 | 1,033 | 1,290 | 22,691 |
| 1883 | 11,954 | 2,658 | 8,993 | 1,384 | 2,130 | 27,119 |
| 1884 | 11,020 | 2,623 | 3,783 | 1,716 | 3,136 | 22,277 |
| 1885 | 7,261 | 2,131 | 2,105 | 1,098 | 1,378 | 13,973 |
| 1886 | 8,344 | 2,268 | 2,497 | 936 | 1,243 | 15,288 |
| 1887 | 10,758 | 3,277 | 3,330 | 1,032 | 1,326 | 19,723 |
| 1888 | 11,984 | 3,598 | 2,801 | 993 | 1,156 | 20,532 |
| 1889 | 9,028 | 2,347 | 2,268 | 779 | 965 | 15,387 |
| 1890 | 6,442 | 1,613 | 1,630 | 699 | 1,042 | 11,426 |
| 1891 | 6,140 | 1,368 | 1,256 | 649 | 922 | 10,335 |
| 1892 | 4,339 | 1,188 | 1,048 | 602 | 594 | 7,771 |

The above table shows a decrease of 2,564 in 1892, as compared with 1891.

The immigrants settled in this Province during the years 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891 and the first half of 1892, were distributed through its respective agencies as follows :—

| Year. | Ottawa. | Kingston. | Toronto. | Hamilton. | London. | Total. |
|---|---|---|---|---|---|---|
| 1878 | 416 | 746 | 4,602 | 6,348 | 943 | 13,055 |
| 1879 | 608 | 1,134 | 9,509 | 10,639 | 2,517 | 24,407 |
| 1880 | 767 | 1,363 | 7,094 | 8,241 | 1,826 | 19,291 |
| 1881 | 977 | 2,187 | 7,779 | 6,227 | 1,063 | 18,233 |
| 1882 | 2,248 | 5,473 | 8,404 | 5,363 | 1,201 | 22,691 |
| 1883 | 2,670 | 3,984 | 11,233 | 7,535 | 1,697 | 27,119 |
| 1884 | 3,033 | 3,196 | 7,229 | 7,176 | 1,643 | 22,277 |
| 1885 | 1,398 | 1,877 | 5,166 | 4,698 | 834 | 13,873 |
| 1886 | 1,072 | 2,173 | 6,045 | 4,705 | 1,293 | 15,288 |
| 1887 | 1,660 | 1,983 | 8,606 | 6,419 | 1,055 | 19,723 |
| 1888 | 1,238 | 1,972 | 9,430 | 6,358 | 1,534 | 20,532 |
| 1889 | 940 | 1,633 | 6,950 | 4,660 | 1,204 | 15,387 |
| 1890 | 708 | 899 | 5,070 | 4,008 | 741 | 11,426 |
| 1891 | 551 | 940 | 4,567 | 3,680 | 597 | 10,335 |
| 1892 (first six months) | 239 | 589 | 2,281 | 1,897 | 340 | 5,346 |

In addition to the above, the following numbers were reported through the customs as having arrived and settled in Ontario :—

| —— | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. |
|---|---|---|---|---|---|---|---|---|---|---|
| Ports within Ottawa Agency | 1,133 | 1,123<br>*1,395 | 1,131<br>*968 | 1,020 | 1,150 | 944 | 1,168 | 932 | 926 | 943 |
| Kingston Agency | 958 | 1,001 | 939 | 855 | 673 | 629 | 725 | 832 | 657 | 780 |
| Toronto " | 1,546 | 1,622 | 426 | 1,593 | 1,709 | 1,736 | 2,057 | 2,757 | 1,978 | 1,972 |
| Hamilton " | 1,138 | 1,366 | 1,179 | 987 | 912 | 1,218 | 1,131 | 1,565 | 1,783 | 2,214 |
| London " | 6,740 | 6,868 | 6,674 | 2,642 | 2,735 | 1,493 | 1,609 | 1,723 | 1,717 | 1,828 |
| Totals | 11,515 | 13,378 | 11,217 | 7,097 | 7,179 | 6,020 | 6,690 | 7,809 | 7,061 | 7,737 |

* Sent from Quebec to other places within the Ottawa Agency.

For the year 1892 there are no statistics of immigrants reported through the customs, the official record having been discontinued when the Dominion immigration

agencies in this Province were closed. It has been ascertained, however, that at about half the ports in Ontario the number of settlers who entered were within thirty of the number of the previous year, so that the total number thus entering the Province during 1892 may be estimated to have exceeded 7,000.

The following statement shows the number of Immigrants who left the British Islands for places out of Europe, and the percentage settled in Ontario during the years 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, and 1892 respectively:—

| Year. | Numbers left. | Settled in Ontario. | Percentage. |
|---|---|---|---|
| 1874 | 241,014 | 25,254 | 10.55 |
| 1875 | 173,809 | 17,655 | 10.16 |
| 1876 | 138,222 | 11,432 | 8.27 |
| 1877 | 119,971 | 11,654 | 9.77 |
| 1878 | 147,663 | 13,055 | 8.84 |
| 1879 | 217,163 | 24,407 | 11.23 |
| 1880 | 322,294 | 19,291 | 5.80 |
| 1881 | 392,514 | 18,233 | 4.64 |
| 1882 | 413,288 | 22,691 | 5.49 |
| 1883 | 397,157 | 27,119 | 6.83 |
| 1884 | 304,074 | 22,277 | 7.32 |
| 1885 | 264,986 | 13,973 | 5.27 |
| 1886 | 330,881 | 15,288 | 4.62 |
| 1887 | 396,494 | 19,723 | 4.97 |
| 1888 | 398,494 | 20,532 | 5.16 |
| 1889 | 342,641 | 15,387 | 4.49 |
| 1890 | 315,980 | 11,426 | 3.61 |
| 1891 | 334,543 | 10,335 | 3.09 |
| 1892 | 321,397 | 7,771 | 2.42 |

The following statement shews the aggregate number of children settled in this Province since 1868 by the undermentioned parties :—

| Year. | Miss Rye. | Miss Macpherson. | Mrs. E. Bilbrough Wallace. | Mr. Middlemore. | Rev. Dr. Stephenson. | Dr. Barnardo. | Shaftesbury's Boys' Home, London, Eng. | Cardinal Manning and others. | Mr. Quarrier. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1868 | 5 | | | | | | | | | 5 |
| 1869 | 187 | | | | | | | | | 187 |
| 1870 | 253 | 194 | | | | | | | | 447 |
| 1871 | 277 | 498 | | | | | | | | 775 |
| 1872 | 185 | 321 | | | | | | | | 506 |
| 1873 | 134 | 358 | | 102 | | | | | | 594 |
| 1874 | 193 | 279 | | 50 | 81 | | | | | 603 |
| 1875 | | 184 | | 78 | 43 | | | | | 305 |
| 1876 | | 163 | | 71 | | | | | | 234 |
| 1877 | 91 | 115 | | 83 | 28 | | | | | 317 |
| 1878 | 42 | 68 | 79 | 86 | 32 | | | | | 307 |
| 1879 | 96 | 95 | 126 | 57 | 24 | | | | | 398 |
| 1880 | 68 | 114 | 129 | 41 | 22 | | 11 | 22 | | 407 |
| 1881 | 117 | 90 | 158 | 60 | 43 | | 49 | 45 | | 562 |
| 1882 | 118 | 183 | 153 | 70 | 41 | 51 | 24 | 139 | | 779 |
| 1883 | 170 | 193 | 194 | 125 | 53 | 172 | 43 | 183 | | 1,133 |
| 1884 | 165 | 165 | 254 | 145 | 75 | 252 | 39 | 283 | | 1,378 |
| 1885 | 125 | 183 | 351 | 115 | 87 | 395 | 32 | 323 | | 1,611 |
| 1886 | 110 | 215 | 274 | 129 | 91 | 615 | 33 | 301 | | 1,768 |
| 1887 | 120 | 212 | 316 | 202 | 75 | 406 | | 77 | | 1,408 |
| 1888 | 300 | 270 | 271 | 279 | 101 | 484 | 104 | 30 | | 1,839 |
| 1889 | 160 | 249 | 295 | 85 | 86 | 481 | 92 | | | 1,448 |
| 1890 | 121 | 156 | 204 | | 71 | 257 | 96 | | 250 | 1,185 |
| 1891 | 135 | 230 | 282 | | 66 | 369 | 108 | | 233 | 1,423 |
| 1892 | 90 | 237 | 204 | | 62 | 614 | 95 | | 250 | 1,552 |
| Total | 3,292 | 4,772 | 3,292 | 1,778 | 1,081 | 4,096 | 726 | 1,403 | 733 | 21,171 |

EXPENDITURE.

The total Expenditure on account of Immigration during the years 1886, 1887, 1888, 1889, 1890, 1891 and 1892, respectively, was as follows:

| —— | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. |
|---|---|---|---|---|---|---|---|
| | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Agencies in Europe | 5,150 00 | 5,150 00 | 5,150 00 | 3,889 00 | 3,870 50 | 4,409 97 | 4,080 66 |
| Agencies in Canada | 4,224 35 | 2,485 22 | 550 00 | 648 00 | 600 00 | 558 00 | 600 00 |
| Carriage of Immigrants in Ontario | 780 58 | 809 34 | 328 55 | 236 63 | 114 49 | 144 64 | 179 11 |
| Provisions and medical attendance | 2,527 64 | 2,948 31 | 638 78 | 423 97 | 196 66 | 365 50 | 202 59 |
| Incidentals | 872 98 | 403 07 | 485 06 | 474 82 | 777 33 | 861 48 | 764 38 |
| Immigration Pamphlet and Maps | 3,281 85 | ..... | 800 00 | 1,177 48 | 27 00 | ..... | 2,087 08 |
| Rainy River District | ..... | ..... | ..... | ..... | ..... | 289 25 | 421 04 |
| Total | 16,837 40 | 11,795 94 | 7,952 39 | 6,849 90 | 5,585 98 | 6,628 94 | 8,334 86 |
| Cost per head, including Immigrants settled through Agencies only | 1.10 | .59 | .38 | .44 | .48 | .74 | 1·07 |

The following Statement, condensed from the Reports of the Commissioner of Crown Lands, shows the progress of the settlement of the Free Grants Districts since 1868 :—

| Year. | Number of Townships set apart. | Number of persons located. | Number of acres located. | Number of purchasers. | Number of acres sold. | Number of lots, the location of which have been cancelled. | Number of patents issued. |
|---|---|---|---|---|---|---|---|
| 1868 | 15 | 511 | 46,336 | 82 | 2,120 | .... | .... |
| 1869 | 24 | 566 | 56,011 | 52 | 956 | .... | .... |
| 1870 | 14 | 1,200 | 155,427½ | 148 | 4,585½ | .... | .... |
| 1871 | 1 | 1,113 | 153,105½ | 139 | 3,452½ | .... | .... |
| 1872 | 18 | 875 | 115,065 | 97 | 2,268½ | 148 | .... |
| 1873 | 6 | 757 | 100,603½ | 79 | 5,038 | 381 | .... |
| 1874 | 10 | 919 | 119,070 | 57 | 2,144 | 453 | 755 |
| 1875 | 1 | 1,387 | 186,807 | 89 | 3,896 | 381 | 570 |
| 1876 | .... | 463 | 192,858 | 110 | 2,261 | 462 | 546 |
| 1877 | 4 | 1,924 | 260,801 | 149 | 5,534 | 691 | 542 |
| 1878 | 1 | 2,115 | 274,238 | 188 | 6,637 | 1,118 | 472 |
| 1879 | .... | 1,506 | 199,500 | 123 | 4,911 | 1,018 | 513 |
| 1880 | 23 | 1,292 | 181,745 | 110 | 3,621 | 870 | 487 |
| 1881 | 5 | 1,077 | 153,764 | 155 | 8,870 | 781 | 487 |
| 1882 | 1 | 932 | 129,535 | 150 | 5,562 | 624 | 502 |
| 1883 | 1 | 985 | 134,594 | 143 | 8,927 | 587 | 790 |
| 1884 | 3 | 1,157 | 161,964 | 125 | 5,809 | 635 | 609 |
| 1885 | 2 | 1,236 | 175,351 | 149 | 5,998 | 563 | 581 |
| 1886 | .... | 1,149 | 162,734 | 133 | 5,474 | 607 | 706 |
| 1887 | 4 | 902 | 122,772 | 109 | 5,694 | 612 | 559 |
| 1888 | .... | 842 | 109,002 | 74 | 2,797 | 556 | 523 |
| 1889 | 20 | 858 | 114,050 | 84 | 3,708 | 657 | 386 |
| 1890 | 1 | 610 | 83,273 | 53 | 2,345 | 575 | 456 |
| 1891 | .... | 579 | 79,948 | 49 | 1,389 | 350 | 473 |
| 1892 | .... | 461 | 59,733 | 62 | 3,354 | 396 | 352 |
| Total | 254 | 26,806 | 3,528,287½ | 2,709 | 107,351½ | 12,165 | 10,299 |

STATEMENT shewing the number of Immigrants settled in Ontario, from 1868 to 1892:—

| Year. | Number settled through Agencies. | Number reported through Customs. | Total number settled. | Value of the effects of Immigrants reported through Customs. |
|---|---|---|---|---|
| 1868 | | | 10,873 | No returns reported. |
| 1869 | | | 15,893 | " |
| 1870 | | | 25,590 | " |
| 1871 | | | 25,842 | " |
| 1872 | | | 38,129 | " |
| 1873 | | | 39,184 | " |
| 1874 | 25,444 | 6,276 | 31,720 | Returns not complete. |
| 1875 | 17,655 | 4,096 | 21,751 | $328,236 00 |
| 1876 | 11,432 | 7,691 | 19,123 | 279,138 00 |
| 1877 | 11,654 | 6,225 | 17,879 | 305,662 00 |
| 1878 | 13,055 | 3,885 | 17,940 | 311,117 00 |
| 1879 | 24,407 | 4,420 | 28,827 | 244,618 00 |
| 1880 | 19,291 | 5,435 | 24,726 | 258,919 00 |
| 1881 | 18,233 | 6,967 | 25,200 | 313,075 00 |
| 1882 | 22,691 | 11,515 | 34,206 | 503,032 00 |
| 1883 | 27,119 | 13,375 | 40,494 | 533,295 00 |
| 1884 | 22,277 | 11,217 | 33,494 | 405,770 00 |
| 1885 | 13,973 | 7,079 | 21,052 | 389,138 00 |
| 1886 | 15,288 | 7,179 | 22,467 | 435,364 00 |
| 1887 | 19,723 | 6,021 | 25,744 | 378,264 45 |
| 1888 | 20,532 | 6,690 | 27,222 | 421,923 00 |
| 1889 | 15,387 | 7,809 | 23,196 | 457,894 |
| 1890 | 11,426 | 7,061 | 18,487 | 448,474 00 |
| 1891 | 10,335 | 7,737 | 18,072 | 442,117 00 |
| 1892 | 7,771 | 7,000 | 14,771 | No returns. |
| Total | 327,693 | 138,678 | 611,882 | 6,457,046 45 |

All of which is respectfully submitted.

DAVID SPENCE,
Secretary.

TORONTO, January, 1893.

# APPENDICES.

## No. 1.

### ANNUAL REPORT OF PETER BYRNE, ESQ., IMMIGRATION AGENT, LIVERPOOL, ENGLAND.

Ontario Government Agency,
Nottingham Buildings, 19 Brunswick Street,
Liverpool, January 9th, 1893.

Hon. John Dryden,
*Minister of Agriculture, etc., etc.,*
*Toronto.*

Dear Sir,—I have the honour to submit the following report of the work of this agency during the past year.

My course of procedure in directing to Ontario the attention of intending emigrants of the most desirable classes, has not materially differed from that of previous years, because it embraces all the methods which a long experience has proved to be the most effective for the purpose.

Newspaper advertising has been resorted to as extensively and as regularly as a due regard to economy and the resources at my disposal would permit. The result has been a constant stream of inquiries through the post and at the office, from nearly all sorts and conditions of people.

All inquiries of a general character for information regarding Ontario have been answered by pamphlets, maps and leaflets being handed or sent by mail to the applicant, and all inquiries of a special and particular character have been carefully replied to by letter.

During the year I have taken part in a considerable number of meetings held chiefly in the agricultural districts where lectures and addresses on emigration were delivered, and illustrated by lime-light views of Canadian life and scenery. At these meetings an abundant supply of pamphlets and leaflets were as usual distributed among the audience and many questions were answered, and appropriate advice given to those of an inquiring turn of mind, including tenant farmers, farm laborers and others, whilst all showed the keenest interest in the lectures and the beautiful views which accompanied them.

I also visited in the course of the year a number of agricultural shows in many different parts of the country, where a large quantity of emigration literature was freely distributed among the visitors. This portion of my regular duties was necessarily a good deal interfered with by the work, undertaken in accordance with your instructions, of arranging the Ontario Mineral Exhibit at the Imperial Institute, London, a task which occupied a large share of my time during the last six months of the year. This exhibit is now practically complete and has been pronounced by several distinguished Canadians who have examined it, to be an effective illustration of the varied, extensive and valuable mineral wealth of the Province.

The splendid harvest with which Ontario was favored last year and the early promise which was given of an equally bountiful one in 1892, led to anticipations of a substantial increase in the volume of emigration last season. These anticipations have to some extent been realised, notwithstanding that the total emigration for the year shows a considerable falling off compared with 1891. This is due to a marked decrease

in the emigration to the United States and Australia. That Canada should be the only one of the great fields of emigration showing an increase during 1892, is a very striking and gratifying fact, especially when it is considered that the year was marked throughout by many depressing incidents and circumstances, but too well calculated to check and discourage the emigration movement—such as dull trade everywhere, severe losses from financial catastrophes, trade strikes in large centres of industry, etc., etc.,

The tenant farmers of the Old Country have been sorely stricken during the past year by bad seasons, serious injury to crops and unremunerative prices for what little they have had left to sell. The consequence is that thousands of them are almost reduced to despair and are crying out loudly for reduced rents and the removal of other burdens to save them from absolute ruin. A proportion of them inquire what chance for salvation there is for them in emigration, but comparatively few have courage to take so heroic a step. And it can be readily enough understood how men whose capital is reduced almost to the vanishing point and who, it may be, are well advanced in years, should hesitate to start life afresh in a strange country without a sure and certain hope of success. There are persons in Canada who think that if proper steps were taken to acquaint the tenant farmers of the Old Country with the great advantages Ontario offers them, they would come over there to settle in much greater numbers than they do. Now, whatever be the reason why more of this desirable class do not go to Ontario, it is certainly not for want of information or opportunities of gaining information about the Province. For besides the enormous number of pamphlets, hand-books, maps, leaflets, etc., on Canada which are constatly being distributed amongst the agricultural classes by the Government agents, aided by thousands of passenger agents all over the United Kingdom, there is not a newspaper which an Old Country farmer reads in which he may not learn where to obtain, for the simple asking, all the information on the subject he desires. It is true that Canadians travelling in the British Islands are often surprised and disgusted at the ignorance of their country which prevails here, and they are apt to rush to the conclusion that nothing is being done or has been done to make the British farmer better acquainted with the greatness and the importance of Canada. But the conclusion would not be a just one. The process of education is going on, and though one often meets with otherwise intelligent people who hold very erroneous notions about the geography, the climate and the institutions of Ontario, yet they have clear enough ideas about the many advantages it offers to the industrious emigrant and the practical agriculturist with capital. The methods above referred to of diffusing information among the public of the Old Country regarding Ontario and Canada generally are, it must be confessed, largely aided by the magnificent importations of Canadian agricultural products, especially cattle, cheese and fruit. These are so many grand object lessons which vividly illustrate the capabilities of the soil, the healthfulness of the climate and the industry and enterprise of the population. Hence, Ontario, as the principal Province of the Dominion, is being rapidly associated in the minds of the British people with ideas of great productive capacity and of substantial progress and prosperity.

Besides the tenant farmers, there is another class of settlers from the Old Country who are very welcome in Ontario, and I believe were in great demand during the past season. I refer to farm laborers. Some one in recently criticising the efforts made to secure this useful class of emigrants, said, in effect, that "all that was necessary to induce them to emigrate in thousands was to go among them and give them facts about Ontario, and thus show them how much better off they would be there than living in England on starvation wages." This is another sample of the ill-considered opinions one sometimes hears expressed by persons who think they have mastered the subject of emigration in all its phases and bearings while on a flying visit to England. These poor laborers want something which they find it infinitely harder to obtain than facts, namely, hard cash. They already know, generally speaking, the essential truth about Ontario. They know it is a good place for them to go to, but how are they to get there? That is the question which, in varying forms, they are continually asking of those who go among them and speak to them on emigration. How are they to raise the £8 to £10 per head or say £40 to £50 per family, which

it would cost to take them from their homes here to Ottawa, Toronto or London? If the means were provided, they would be only too glad to go "in thousands." As it is, we can only hope to secure those—a very small percentage of the whole—who by reason of exceptionally favorable circumstances, are able to save out of their scanty earnings, or obtain from friends enough money to pay their passages.

I have had, as usual, a large number of applications from mechanics of different kinds, but give them no encouragement, except such of them as combine with a knowledge of some trade an acquaintance with practical agriculture, and have a desire to go on a farm; for surely such men must make very good and useful settlers.

To persons of means who enquire of me for particulars as to the purchase of property, the establishing of factories, etc., I give every information and encouragement in my power. For the special information of persons interested in mining, I have prepared a small exhibit of the principal economic minerals of Ontario, out o the surplus specimens at the Imperial Institute, which will be placed in a case in my office here for inspection.

I still continue to discourage the emigration of clerks and professional persons of all kinds. These classes of inquirers do not apply in as large numbers as formerly, doubtless because it has become widely known that there is no demand whatever for them in Ontario.

I have frequent applications from young men respectably connected, but of no occupation, who desire to learn practical farming in Ontario. I advise them to go out under the auspices of some of the various clergymen and other well accredited persons who now regularly conduct parties of young people and find situations for them on arrival. The premium system by which so many persons of this description have been victimised, is still apparently flourishing, notwithstanding the many warnings given to the public through the medium of the press and in other ways against it. I invariably advise those who ask me for information regarding this nefarious system, to have nothing whatever to do with it, and that it is not necessary to pay a premium in order to get a situation on a farm in Ontario.

Inquiries continue to be made to me by shippers of agricultural produce in Ontario, for the names and addresses of firms of good standing in Liverpool to whom they could safely consign their goods for sale. I need hardly say that I am always glad to give such information and take the utmost pains to ensure its being accurate and trustworthy.

The feature of this year's trade in Ontario products has been the large shipments of hay to this and other ports, which, I understand, have realized fairly satisfactory prices.

Professor Robertson has rendered good service by a series of able addresses on the rapid development of scientific cheese and butter-making in Canada, which he recently delivered in some of the principal cities of England.

The new Ontario pamphlet which I understand is in the course of preparation under your direction, is very much wanted for distribution. The old ones, besides being a good deal out of date, are now nearly exhausted. Owing to the distribution from the office of the High Commissioner of a number of pamphlets descriptive of Algoma, and to the publication in the *Canadian Gazette* of a letter from a settler in that district, I have received some inquiries regarding it.

I have also received recently a well written and apparently truthful description of the district from Mr. W. Turner, Crown Lands Agent at Sault Ste. Marie. As Mr. Turner's article is presumably of a thoroughly trustworthy character, I have thought it well to have it printed as a leaflet for distribution amongst intending emigrants of the agricultural classes.

The Board of Trade emigration returns have not been issued up to the time of writing this report, but will be forwarded as soon as they can be obtained.

I have the honor to be
Your obedient servant,

P. BYRNE,
Agent for Ontario.

## No. 2.

## ANNUAL REPORT OF E. M. CLAY, ESQ., DOMINION IMMIGRATION AGENT, HALIFAX.

DOMINION GOVERNMENT IMMIGRATION AGENCY,
INTERCOLONIAL RAILWAY STATION,
HALIFAX, NOVA SCOTIA, 31st Dec., 1892.

SIR,—I have the honor to submit my annual report for the season ending 31st December, 1892, which shows a decrease in cabin and an increase in steerage passengers.

The number of cabin passengers landed in 1891 was 6,977, and 2,156 for the present year, the decrease of 4,259 cabin is owing to our not having kept a record since July last of the United States citizens coming into Canada, as mostly all were merely excursionists.

The total number of steerage passengers landed at this port during the year was 11,849, and as compared with last year's arrivals, 10,118, shows 1731 more; though the increase is not very much greater in number than in my last report, the class of immigrants was by far superior to any that have landed at this point for years. All of them had sufficient means to keep them until such time as they could find suitable employment.

The farmers more especially were as a rule well provided with cash to purchase farms and begin the building of homes in the different Provinces which they had concluded to settle in.

The farm laborers I have no doubt found immediate employment, as the demand for this class (more especially in the western Provinces) during the spring and autumn was such that all those who were willing to work could not fail to obtain employment.

Though the increase to your Province was not much in excess over my last season's statement, it is encouraging from a national point of view to note that your sister Provinces and Territories have added many hundreds more than last year to their respective populations, a fact which proves that the pioneer settlers are taking an active interest in the development and welfare of their adopted country by encouraging their friends in Great Britain and throughout Europe to emigrate and take advantage of the offers extended by the Canadian Government to actual settlers who are willing to work and build up homes which they could never expect to secure in the different countries of Europe.

The enclosed statements will more fully explain to you the arrivals, nationalities, sexes, destinations and occupations of immigrants landing at Halifax during the past year.

Statement A. shows the monthly returns of cabin arrivals.

Statement B. shows the monthly returns of steerage immigrant arrivals.

Statement C. shows the total yearly returns of cabin arrivals.

Statement D. shows the total yearly returns of steerage passengers.

Statement E. shows the number of children immigrants landed at this agency for the year.

Trusting that this will prove satisfactory,

I have the honor to be, Sir,
Your obedient servant,
EDWIN M. CLAY.

D. SPENCE, ESQ.,
Sec'y Ontario Immigration Dept.,
Toronto, Ont.

D.—YEARLY RETURN of Immigrant Arrivals and Departures at Halifax, Nova Scotia Immigration Agency for year ending December 31st, 1892

| | Adults, 12 years and over. | | Under 12 years. | | Total Souls. | Total Amount Brought in. | | Nationalities. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male. | Female. | Male. | Female. | | Effects. | Cash. | English. | Irish. | Scotch. | German. | Scandinavians. | French and Belgians. | U.S. Citizens. | Other Countries. | Total. |
| *Via* Ocean Travel | 7,256 | 2,635 | 1,166 | 792 | 11,849 | $141,566 | $283,134 | 5,428 | 165 | 423 | 783 | 764 | 290 | 277 | 364 | 8,494 |
| *Via* United States | ..... | ..... | ..... | ..... | ..... | | | 929 | 25 | 8 | 636 | 1,278 | 124 | ..... | 355 | 3,355 |
| Total | 7,256 | 2,635 | 1,166 | 792 | 11,849 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| *Trades or Occupations. | | | | | | | | Declared Destinations. | | | | | | | | | | Arrivals. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Lower Provinces. | | | | | | | | | | | |
| Farmers. | Farm Laborers. | General Laborers. | Mechanics. | Clerks, Traders, etc. | Female Servants. | Not Classified. | Total. | Nova Scotia. | New Brunswick. | Prince Edward Island. | Quebec. | Ontario. | Manitoba. | Northwest Territories. | British Columbia. | United States. | Total. | | |
| 423 | 630 | 3,666 | 410 | 88 | 968 | 2,309 | 8,494 | 1,778 | 539 | 25 | 1,244 | 1,841 | 2,013 | 653 | 401 | 3,355 | 11,849 | Not reported elsewhere— | |
| 124 | 128 | 1,688 | 77 | 22 | 529 | 787 | 3,355 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | For Canada ..... | 8,494 |
| | | | | | | | | | | | | | | | | | | For United States ..... | 3,355 |
| ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Total ..... | 11,849 |

* In the classification of trades quite a large number of agricultural laborers are entered on the passenger lists as general laborers.

EDWIN M. CLAY, *Agent.*

E.—Statement showing number of Children Immigrants landed at the Halifax, N.S., Immigration Agency for the year ending December 31st, 1892.

| Steamers. | Date of arrivals. | By whom sent. | Sexes. | | | Destinations. |
|---|---|---|---|---|---|---|
| | | | Males. | Females. | Total. | |
| Mongolian | March 5. | Miss Rye | ..... | 31 | 31 | Niagara. |
| Oregon | " 27. | Dr. Stephenson | 42 | ..... | 42 | Hamilton and Winnipeg. |
| Carthaginian | " | Dr. Barnado | 300 | 3 | 303 | Winnipeg and Toronto. |
| Buenos Ayrean | April 5. | Mr. Quarrier | 130 | ..... | 130 | Brockville. |
| Sarnia | " 10. | Mr. Wallace | 128 | 11 | 139 | Belleville. |
| " | " | Mr. Fegan | 96 | ..... | 96 | Toronto. |
| Peruvian | " 12. | Mrs. Birt | 42 | ..... | 42 | Knowlton. |
| Hibernian | Sept. 19. | Miss Stirling | 4 | 2 | 6 | Aylesford, N.S. |
| | | Totals | 742 | 47 | 789 | |
| | | Total, 1891 | 532 | 98 | 630 | |
| | | Increase for 12 mos. over 1891 | ..... | ..... | 159 | |

EDWIN M. CLAY,
Dominion Immigration Agent.

Dominion Immigration Agency,
Halifax, N. S., Jan'y 1st, 1893.

A.—Cabin.—Monthly Statement of Arrivals and Departures at the Halifax, N. S., Immigration Agency, for the year ending December, 31st, 1892.

| Month. | Arrivals *via* ocean travel. | Sexes. | | | | Declared Destinations. | | | | | | | | Nationalities for Canada. | | | | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Males. | Females. | Children under 12. | Total. | Lower Provinces. | Quebec. | Ontario. | Manitoba. | North-West Territories. | British Columbia. | United States. | Total. | English. | Irish. | Scotch. | United States Citizens. | Total. | |
| January | 236 | 169 | 60 | 7 | 236 | 192 | 27 | 13 | 2 | .... | 2 | .... | 236 | 92 | .... | .... | 144 | 236 | |
| February | 242 | 159 | 75 | 8 | 242 | 172 | 31 | 19 | 11 | 2 | 7 | .... | 242 | 127 | .... | .... | 115 | 242 | |
| March | 261 | 176 | 71 | 14 | 261 | 166 | 29 | 32 | 18 | 3 | 13 | .... | 261 | 174 | .... | .... | 87 | 261 | |
| April | 462 | 286 | 149 | 27 | 462 | 286 | 41 | 54 | 45 | 15 | 21 | .... | 462 | 270 | .... | 4 | 188 | 462 | |
| May | 371 | 176 | 183 | 12 | 371 | 357 | 11 | 1 | 1 | .... | 1 | .... | 371 | 35 | .... | .... | 336 | 371 | The ultimate destinations of cabin passengers is not given on the ocean passenger lists. This statement is as near correct as possible, taking railway bookings as a guide. No record has been kept of American passengers since July 1st. |
| June | 604 | 225 | 350 | 29 | 604 | 581 | 14 | 4 | 4 | .... | 1 | .... | 604 | 61 | .... | .... | 543 | 604 | |
| July | 96 | 64 | 26 | 6 | 96 | 60 | 20 | 10 | 1 | .... | 5 | .... | 96 | 96 | .... | .... | .... | 96 | |
| August | 96 | 63 | 30 | 3 | 96 | 73 | 18 | 3 | 2 | .... | .... | .... | 96 | 96 | .... | .... | .... | 96 | |
| September | 65 | 33 | 28 | 4 | 65 | 35 | 16 | 10 | 2 | 2 | .... | .... | 65 | 60 | 5 | .... | .... | 65 | |
| October | 48 | 22 | 18 | 8 | 48 | 42 | 5 | .... | 1 | .... | .... | .... | 48 | 48 | .... | .... | .... | 48 | |
| November | 103 | 64 | 31 | 8 | 103 | 54 | 20 | 11 | 11 | 3 | 4 | .... | 103 | 103 | .... | .... | .... | 103 | |
| December | 134 | 83 | 41 | 10 | 134 | 53 | 34 | 27 | 11 | .... | 9 | .... | 134 | 118 | 6 | 8 | *2 | 134 | |
| | 2,718 | 1,520 | 1,062 | 136 | 2,718 | 2,071 | 266 | 184 | 109 | 25 | 63 | .... | 2,718 | 1,280 | 11 | 12 | 1,415 | 2,718 | |

*The two for United States in December are Germans.

Dominion Immigration Agency,
Halifax, N.S.

EDWIN M. OLAY,
Dominion Immigration Agent.

B.—Steerage—Monthly Statement of Immigrant Arrivals and Departures at the

| Month. | Arrivals *via* Ocean Travel. | Sexes. | | | | Declared Destina | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Males. | Females. | Children under 12. | Total. | Lower Provinces. | Quebec. | Ontario. | Manitoba. | Northwest Territories. |
| January | 412 | 244 | 98 | 70 | 412 | 81 | 73 | 50 | 102 | 6 |
| February | 486 | 353 | 81 | 52 | 486 | 88 | 49 | 84 | 79 | 14 |
| March | 2,426 | 1,709 | 381 | 356 | 2,426 | 306 | 235 | 556 | 725 | 148 |
| April | 4,047 | 2,512 | 721 | 814 | 4,047 | 563 | 427 | 816 | 864 | 416 |
| May | 526 | 345 | 135 | 46 | 526 | 222 | 89 | 31 | 21 | 4 |
| June | 328 | 156 | 135 | 37 | 328 | 188 | 47 | 21 | 15 | 8 |
| July | 301 | 145 | 101 | 55 | 301 | 162 | 31 | 21 | 7 | 1 |
| August | 320 | 172 | 86 | 62 | 320 | 183 | 23 | 6 | 6 | 2 |
| September | 286 | 114 | 115 | 57 | 286 | 139 | 46 | 14 | 7 | 2 |
| October | 178 | 61 | 80 | 37 | 178 | 80 | 30 | 9 | 5 | 1 |
| November | 845 | 467 | 248 | 130 | 845 | 136 | 73 | 68 | 67 | 37 |
| December | 1,694 | 978 | 454 | 262 | 1,694 | 194 | 121 | 165 | 115 | 14 |
| Total | 11,849 | 7,256 | 2,635 | 1,958 | 11,849 | 2,342 | 1,244 | 1,841 | 2,013 | 653 |

Dominion Immigration Office,

Halifax, N. S.

Halifax, N.S., Immigration Agency, for the year ending December 31st, 1892.

| tions. | | | Nationalities for Canada. | | | | | | | | Occupations remaining in Canada. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| British Columbia. | United States. | Total. | English. | Irish. | Scotch. | Germans. | Scandinavians. | French and Belgians. | United States Citizens. | Others. | Farmers. | Farm Laborers. | General Laborers. | Mechanics. | Clerks. | Domestics. | Not classified. | Total. |
| 16 | 84 | 412 | 194 | 5 | 2 | 69 | 26 | 16 | .... | 16 | 6 | .... | 160 | 25 | 4 | 32 | 101 | 328 |
| 36 | 136 | 486 | 257 | 13 | 28 | 32 | 15 | 3 | .... | 2 | 8 | .... | 234 | 20 | .... | 27 | 61 | 350 |
| 111 | 345 | 2,426 | 1,300 | 11 | 136 | 195 | 208 | 143 | 17 | 71 | 155 | 227 | 974 | 98 | 10 | 200 | 417 | 2,081 |
| 144 | 817 | 4,047 | 1,820 | 61 | 209 | 447 | 306 | 97 | 67 | 223 | 185 | 357 | 1,306 | 118 | 22 | 251 | 991 | 3,230 |
| 12 | 147 | 526 | 241 | 13 | 13 | .... | .... | .... | 110 | 2 | .... | 4 | 230 | 15 | 6 | 54 | 70 | 379 |
| 7 | 42 | 328 | 196 | .... | .... | .... | 3 | 4 | 83 | .... | .... | .... | 121 | 9 | 1 | 80 | 75 | 286 |
| 7 | 72 | 301 | 213 | 9 | .... | .... | ... | 7 | .... | .... | .... | 3 | 97 | 5 | .... | 40 | 84 | 229 |
| 3 | 97 | 320 | 199 | 8 | 16 | .... | .... | .... | .... | .... | 6 | 1 | 66 | 44 | 1 | 26 | 79 | 223 |
| 5 | 73 | 286 | 190 | 7 | 16 | .... | .... | .... | .... | .... | 1 | 5 | 50 | 18 | 6 | 51 | 82 | 213 |
| ..... | 53 | 178 | 120 | 5 | .... | .... | .... | .... | .... | .... | 2 | .... | 34 | 1 | 1 | 39 | 48 | 125 |
| 21 | 443 | 845 | 279 | 18 | .... | 10 | 75 | 4 | .... | 16 | 39 | 19 | 146 | 18 | 5 | 67 | 108 | 402 |
| 39 | 1,046 | 1,694 | 419 | 15 | 3 | 30 | 131 | 16 | .... | 34 | 21 | 14 | 248 | 39 | 32 | 101 | 193 | 648 |
| 401 | 3,355 | 11,849 | 5,428 | 165 | 423 | 783 | 764 | 290 | 277 | 364 | 423 | 630 | 3,666 | 410 | 88 | 968 | 2,309 | 8,494 |

EDWIN M. CLAY,

*Dominion Immigration Agent.*

C.—Yearly Return of Immigrant Arrivals and Departures at Halifax, Nova Scotia, Immigration Agency for the year ending 31st December, 1892.

| Cabin. | Adults, 12 years and over. | | Under 12 years. | | Total Souls. | Nationalities. | | | | | | Trades or Occupations. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male. | Female. | Male. | Female. | | English. | Irish. | Scotch. | Germans. | United States Citizens. | Total. | Not Classified. | Total. |
| *Via* Ocean Travel.. ..... | 1,520 | 1,062 | 77 | 59 | 2,718 | 1,280 | 11 | 12 | 2 | 1,413 | 2,718 | 2,718 | 2,718 |

| Declared Destinations. | | | | | | | | | Arrivals. | | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Lower Provinces. | | | Quebec. | Ontario. | Manitoba. | Northwest Territories. | British Columbia. | Total. | | | |
| Nova Scotia. | New Brunswick. | Prince Edward Isl'd. | | | | | | | | | |
| 1,896 | 167 | 8 | 266 | 184 | 109 | 25 | 63 | 2,718 | Not reported elsewhere— For Canada ..... | 2,718 | Among the Cabin passengers were many farmers intending to settle in Canada but the passenger lists failed to classify the trades and occupations of Cabin passengers. American travel not included since July 1st, 1892. |

EDWIN M. CLAY, *Agent.*

## No. 3.

## ANNUAL REPORT OF P. DOYLE, ESQ, DOMINION IMMIGRATION AGENT, QUEBEC.

GOVERNMENT IMMIGRATION OFFICE,
QUEBEC, 31st December, 1892.

SIR,—I have the honor to submit to you herewith my annual report for the year 1892

The total arrivals at the port of Quebec were:—Cabin, 3,704; steerage, 23,718; total, 27,422.

The arrivals compared with those of 1891, were as follows:—

| From. | 1891. | | 1892. | | Increase. | Decrease. |
|---|---|---|---|---|---|---|
| | Cabin. | Steerage. | Cabin. | Steerage. | | |
| England | 3,155 | 17,172 | 3,540 | 20,960 | 4,173 | |
| Ireland | 37 | 866 | 71 | 854 | 22 | |
| Scotland | 37 | 2,140 | 91 | 1,671 | | 415 |
| Germany | | 28 | | 181 | 153 | |
| Belgium | | | 2 | 52 | 54 | |
| | 3,229 | 20,206 | 3,704 | 23,718 | 4,402 | 415 |
| Cabin | | 3,229 | | 3,704 | 415 | |
| Grand total | | 23,435 | | 27,422 | 3,987 | |

Showing an increase of 3,987.

The total number of steamships arrived with passengers was 78; tonnage, 206,340.

The average passage of the Allan line was: Weekly steamers from Liverpool, 10 days; Londonderry, 9 days. Glasgow steamers from Glasgow, 11 days; Liverpool, 12 days. Dominion line: Weekly steamers from Liverpool, 9½ days.

The number of cabin and steerage by each line was as follows:—

| —— | Cabin. | Steerage. | Total. |
|---|---|---|---|
| Allan Line: | | | |
| Weekly steamers from Liverpool | 2,063 | 12,886 | 14,949 |
| do do Londonderry | 71 | 854 | 925 |
| Glasgow steamers from Glasgow | 91 | 1,671 | 1,762 |
| do do Liverpool | ..... | 265 | 265 |
| | 2,225 | 15,676 | 17,901 |
| Dominion Line: | | | |
| Weekly steamers from Liverpool | 1,461 | 7,667 | 9,128 |
| Hansa Line: | | | |
| Steamers from Hamburg | ..... | 181 | 181 |
| do Antwerp | 2 | 52 | 54 |
| | 2 | 233 | 235 |
| Beaver Line: | | | |
| Steamer from Liverpool | 16 | 142 | 158 |
| Totals | 3,704 | 23,718 | 27,422 |

The nationalities of the passengers brought out by each line were as follows :—

| — | English. | Irish. | Scotch. | Germans. | Scandinavians. | French and Belgians. | Icelanders. | Russians. | | | Australians. | Italians. | Swiss. | Bohemians. | Hungarians. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Russians. | Jews. | Mennonites. | | | | | | |
| Allan Line : | | | | | | | | | | | | | | | | |
| Weekly—Liverpool.. | 8,487 | ..... | ..... | 616 | 5,184 | 312 | 34 | 88 | 122 | 16 | 43 | 6 | .. | 23 | 18 | 14,949 |
| do Londonderry | ..... | 925 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 925 |
| Glasgow—Glasgow.. | ..... | .... | 1,555 | 5 | ..... | .... | 190 | .... | .... | .... | 12 | .... | .... | .... | .. | 1,762 |
| do Liverpool. | 9 | ..... | ..... | 79 | 170 | 7 | .... | .... | .... | .... | .... | .. | .. | .. | .. | 265 |
| | 8,496 | 925 | 1,555 | 700 | 5,354 | 319 | 224 | 88 | 122 | 16 | 55 | 6 | .. | 23 | 18 | 17,901 |
| Dominion Line : | | | | | | | | | | | | | | | | |
| Weekly—Liverpool.. | 3,800 | 6 | 4 | 866 | 3,669 | 241 | 78 | 57 | 300 | 61 | .. | .. | .. | 28 | 18 | 9,128 |
| Hansa Line : | | | | | | | | | | | | | | | | |
| From Hamburg..... | ..... | ..... | ..... | 47 | 3 | .... | .... | 94 | 15 | .... | 22 | .. | .. | .. | .. | 181 |
| do Antwerp..... | ..... | ..... | ..... | 17 | .. | 26 | .... | .... | .... | .... | .. | .. | 11 | .. | .. | 54 |
| | ..... | .... | ..... | 64 | 3 | 26 | .... | 94 | 15 | .... | 22 | .. | 11 | .. | .. | 235 |
| Beaver Line : | | | | | | | | | | | | | | | | |
| From Liverpool ..... | 26 | ..... | ..... | 27 | 46 | 1 | .... | 8 | 50 | ... | .. | .. | .. | .. | .. | 158 |
| Totals. ..... | 12,322 | 931 | 1 559 | 1,657 | 9,072 | 587 | 302 | 247 | 487 | 77 | 77 | 6 | 11 | 51 | 36 | 27,422 |

The following table gives the number of married and single men and women, and the sexes of children and infants of each nationality arrived in 1892.

| — | Married. | | Single. | | Children. | | Infants. | | Total. |
|---|---|---|---|---|---|---|---|---|---|
| | Males. | Females. | Males. | Females. | Males. | Females. | Males. | Females. | |
| English | 1,079 | 1,643 | 5,523 | 2,000 | 983 | 845 | 137 | 112 | 12,322 |
| Irish | 55 | 99 | 438 | 232 | 49 | 39 | 8 | 11 | 931 |
| Scotch | 110 | 196 | 600 | 311 | 132 | 174 | 21 | 15 | 1,559 |
| Germans | 219 | 268 | 381 | 156 | 233 | 226 | 90 | 84 | 1,657 |
| Scandinavians | 672 | 923 | 4,088 | 1,476 | 821 | 744 | 163 | 185 | 9,072 |
| French and Belgians | 62 | 73 | 221 | 75 | 68 | 74 | 6 | 8 | 587 |
| Icelanders | 40 | 51 | 68 | 45 | 43 | 37 | 12 | 6 | 302 |
| Russians | 29 | 38 | 63 | 32 | 32 | 35 | 11 | 7 | 247 |
| Russian Jews | 40 | 82 | 131 | 49 | 83 | 60 | 21 | 21 | 487 |
| do Mennonites | 13 | 14 | 9 | 9 | 11 | 13 | 1 | 7 | 77 |
| Austrians | 13 | 13 | 14 | 5 | 9 | 12 | 3 | 8 | 77 |
| Italians | 1 | 1 | 3 | ..... | ..... | ..... | ..... | 1 | 6 |
| Swiss | 1 | ..... | 7 | ..... | ..... | 2 | ..... | 1 | 11 |
| Bohemians | 6 | 10 | 6 | 8 | 5 | 10 | 2 | 4 | 51 |
| Hungarians | 6 | 6 | 6 | 3 | 4 | 6 | 3 | 2 | 36 |
| | 2,346 | 3,417 | 11,558 | 4,401 | 2,473 | 2,277 | 478 | 472 | 27,422 |

The trades and callings of the male steerage passengers, as per passenger lists, were as follows:

| — | — |
|---|---|
| Farmers | 506 |
| Farm laborers and laborers | 10,894 |
| Mechanics | 402 |
| Clerks, traders, etc | 113 |
| | 11,915 |

STEERAGE PASSENGERS.—Statement of Immigrant arrivals and departures at Quebec Immigration Agency for the year ending 31st Dec., 1892.

| Sexes. | | | Total number of souls. | General Destinations. | | | | | | | Nationalities Remaining in Canada. | | | | | | | Occupations Remaining in Canada. | | | | | | | Total. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Males. | Females. | Children and Infants. | | Lower Provinces. | Quebec. | Ontario. | Manitoba. | North-West Territories. | British Columbia. | United States. | English. | Irish. | Scotch. | Germans. | Scandinavians. | French and Belgians. | Other Countries. | Farmers. | Farm Laborers. | General Laborers. | Mechanics | Clerks and Traders. | Female Domestics. | Not classified. | For Canada. | For United States. |
| 11,915 | 6,439 | 5,364 | 23,718 | 101 | 4,598 | 3,818 | 4,264 | 397 | 651 | 9,889 | 8,118 | 771 | 1,365 | 856 | 1,528 | 444 | 747 | 487 | 988 | 4,686 | 376 | 127 | 1,264 | 5,901 | 13,829 | 9,889 |

GOVERNMENT IMMIGRATION OFFICE,
QUEBEC, 31st December, 1892.

P. DOYLE,
Agent.

---

The whole respectfully submitted.

I have the honor to be, Sir,
Your obedient servant,
P. DOYLE,
Dominion Government Immigration Agent.

DAVID SPENCE, ESQ.,
Secretary Department of Immigration, Toronto.

## No. 1.—ANNUAL REPORT OF JOHN HOOLAHAN, ESQ., DOMINION IMMIGRATION AGENT, MONTREAL.

Statement of Immigration arrivals and departures at Montreal Immigration Agency for the year 1892.

| Arrivals *via* ocean travel. | Arrivals *via* United States. (1) | Sexes. | | | | Declared destinations. | | | | | | Nationalities remaining in Canada. | | | | | | | Occupations remaining in Canada. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Males. | Females. | Children under 12 years. | Total No. of Souls. | Quebec. | Ontario. | Manitoba. | N. W. Territories. | British Columbia. | United States. | English. | Irish. | Scotch. | German. | Scandinavian. | French and Belgian. | Other countries. | Farmes. | Farm laborers | General laborers. | Mechanics. | Clerks and traders. | Female Domestics. | Not classified. | For Canada, not reported elsewhere. | For United States, not reported elsewhere. | For Canada, reported elsewhere. | For United States, reported elsewhere. | |
| 10782 | 2665 | 6559 | 3499 | 3389 | 13447 | *2888 | 1737 | 2723 | 862 | 650 | 4587 | 5597 | 359 | 323 | 308 | 379 | 450 | 1444 | 622 | 820 | 1910 | 740 | 307 | 680 | 3781 | 5487 | 4064 | 3373 | 523 | |

*Note 31 for New Brunswick included in this total. (1) July 1st stopped accounting for arrivals *via* United States by order of the Department.

JOHN HOOLAHAN,
Dominion Immigration Agent.

# REPORT

OF

## THE HON. THE PROVINCIAL TREASURER

ON THE WORKING OF THE

# TAVERN AND SHOP LICENSES ACTS

FOR THE YEAR

# 1892.

*PRINTED BY ORDER OF THE LEGISLATIVE ASSEMBLY.*

*TORONTO:*
PRINTED BY WARWICK & SONS, 68 AND 70 FRONT STREET WEST.
1893.

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# LICENSE REPORT.

PROVINCIAL TREASURER'S OFFICE,

LICENSE BRANCH,

TORONTO, January, 1893.

*To the Honorable* GEORGE AIREY KIRKPATRICK.

*Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOR:

I have the honor to submit the Seventeenth Annual Report, and accompanying Schedules, respecting the operation of the Liquor License Laws.

## NUMBER OF LICENSES.

Schedule A is a comparative statement of the number of Licenses of the various denominations issued, and of the number extended, transferred or removed in each of the License Districts of the Province, during the past three license years, and may be thus summarized:

| Years. | Licenses. | | | | | | | | | Extensions, Transfers, and Removals of Licenses. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tavern. | | | | Shop. | Wholesale. | Vessel. | | Total. | | | | |
| | Yearly. | | Six Months. | | | | | | | | | | |
| | Ordinary. | Beer and Wine. | Ordinary. | Beer and Wine. | | | Ordinary. | Beer and Wine. | | Extensions. | Transfers. | Removals. | Total. |
| 1889-90 | 2992 | 81 | 40 | 9 | 445 | 27 | 8 | 7 | 3609 | 46 | 534 | 56 | 636 |
| 1890-1 | 3005 | 66 | 15 | 10 | 428 | 24 | ..... | ... | 3548 | 51 | 574 | 53 | 678 |
| 1891-2 | 2923 | 67 | 45 | 5 | 403 | 21 | ..... | ..... | 3464 | 79 | 609 | 37 | 725 |

### Provincial Revenue.

The same Schedule shews the revenue derived by the Province from Licenses and Fines to have been for

| | |
|---|---|
| 1889-90 | $307,281 02 |
| 1890-1 | 308,200 17 |
| 1891-2 | 300,604 38 |

### Licenses in Counties and Cities.

Schedule B is a statement of the number of Licenses issued in the several Counties and Cities during the past eighteen years.

### Licenses in Minor Municipalities.

Schedule C gives, in detail, as regards each City, Town, Incorporated Village, and Township, and the Unorganized Territory of the Province, the number of Licenses (other than Vessel Licenses) and of extensions, transfers and removals granted during the past three years.

### Total Collections.

This Schedule also gives the amounts collected on account of Licenses and Fines (including the sums imposed by municipal by-laws), the totals of which (with the duties derived from Vessel Licenses during the year 1889-90) were as follows:—

| | |
|---|---|
| 1889-90 | $680,560 55 |
| 1890-1 | 680,298 68 |
| 1891-2 | 665,609 10 |

### Municipal Revenue.

The payments to the Municipalities are shewn by the same Schedule to have been in—

| | |
|---|---|
| 1889-90 | $297,353 45 |
| 1890-1 | 294,968 26 |
| 1891-2 | 289,487 41 |

The amounts imposed in each Municipality by by-laws, in excess of statutory duties, are also given in this Schedule.

### Fines.

The fines collected during the past year, as shewn by Schedule D, amounted to $23,316.30 as compared with $22,572.07 in 1890-1.

### Salaries of Inspectors—Expenses of Commissioners.

The payments under these heads are also shewn in the same Schedule D.

### Miscellaneous Expenditure.

Schedule "E" shews the expenditures of enforcing the Act in the several districts other than those included in Schedule D, and consists of postage, stationery, printing, advertising, magistrates, constables, witness, counsel and detective fees, etc.

### Commitments for Drunkenness.

Schedule F shews the number of prisoners committed for drunkenness during the years from 1876 to 1892 inclusive. The number committed during the year 1892 as compared with 1891 shows a decrease of 878.

### The Inspectors of Licenses.

The names and post office addresses of the Inspectors of Licenses are set out in Schedule G.

### Special Inspection of License Districts.

The special inspection of the License Districts, and the examination of the work of the license officials therein, from time to time, have been continued during the past year.

Respectfully submitted.

R. HARCOURT,
*Provincial Treasurer.*

# SCHEDULES.

## SCHEDULE A.

COMPARATIVE STATEMENT, BY LICENSE DISTRICTS, shewing the number of (Provincial) such licenses extended, transferred or removed, and the amount of revenue license years 1889-90, 1890-1

| License District. | Tavern Licenses Issued. | | | | | | | | | Tavern Licenses Extended. | | | Shop Licenses Issued. | | | Shop Licenses Extended. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yearly Licenses. | | | | | | Six Months' Licenses. | | | | | | | | | | | |
| | Ordinary. | | | Beer and Wine. | | | Ordinary. | | | Beer and Wine. | | | | | | | | | |
| | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Addington | 37 | 33 | 30 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Algoma | 28 | 31 | 30 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 5 | 2 | .. | .. | .. |
| Brant, North | 17 | 17 | 15 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 2 | 2 | .. | .. | .. |
| Brant, South | 9 | 9 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | .. | .. | .. | .. | .. | .. |
| Brantford | 18 | 18 | 18 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 5 | 5 | .. | .. | .. |
| Brockville and Leeds | 40 | 38 | 36 | 1 | 1 | 2 | 3 | 3 | 4 | 1 | 1 | 1 | .. | .. | .. | 10 | 7 | 7 | .. | .. | .. |
| Bruce, Centre | 28 | 26 | 25 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | 3 | .. | .. | .. |
| Bruce, North | 31 | 30 | 32 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Bruce, South | 43 | 42 | 40 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | 3 | .. | .. | .. |
| Cardwell | 40 | 38 | 37 | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | 2 | 3 | 2 | 2 | .. | .. | .. | 2 |
| Carleton | 26 | 26 | 27 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. |
| Cornwall | 26 | 26 | 25 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 3 | 4 | .. | .. | .. |
| Dufferin | 27 | 26 | 24 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | 2 | .. | .. | .. |
| Dundas | 26 | 19 | 18 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | .. | .. | .. |
| Durham, East | 23 | 21 | 21 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 4 | .. | .. | .. |
| Durham, West | 12 | 11 | 13 | 1 | 1 | 2 | .. | 1 | 1 | .. | .. | .. | .. | 1 | .. | 3 | 3 | 2 | .. | .. | .. |
| Elgin, East | 25 | 25 | 25 | 4 | 1 | .. | 1 | 2 | 2 | .. | .. | .. | .. | 1 | .. | 1 | 1 | 1 | .. | .. | .. |
| Elgin, West | 39 | 36 | 36 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 7 | 4 | 4 | .. | 2 | .. |
| Essex, North | 55 | 61 | 60 | 1 | 1 | 1 | 2 | 2 | 2 | .. | .. | .. | 1 | 1 | .. | 10 | 8 | 7 | .. | .. | .. |
| Essex, South | 38 | 31 | 28 | 1 | 1 | 1 | .. | 2 | 1 | .. | .. | .. | .. | 2 | 1 | 2 | .. | 2 | .. | .. | .. |
| Frontenac | 22 | 23 | 24 | 1 | 2 | 4 | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Glengarry | 32 | 31 | 32 | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | 3 | .. | 2 | 4 | 4 | 5 | .. | .. | .. |
| Grenville | 32 | 31 | 31 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 3 | 3 | 3 | .. | .. | .. |
| Grey, Centre | 27 | 25 | 25 | 1 | 2 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | .. | .. | .. |
| Grey, North | 25 | 23 | 23 | 1 | 1 | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | 3 | .. | .. | .. |
| Grey, South | 30 | 30 | 26 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | 1 | .. | .. | .. |
| Haldimand | 31 | 36 | 33 | 3 | 2 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 2 | 2 | .. | .. | .. |
| Haliburton | 7 | 7 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Halton | 28 | 27 | 27 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. |
| Hamilton | 90 | 92 | 91 | .. | .. | .. | 1 | 1 | .. | 1 | .. | 1 | 19 | 4 | 4 | 38 | 38 | 37 | .. | .. | 1 |
| Hastings, East | 29 | 28 | 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | 3 | .. | .. | .. |
| Hastings, North | 28 | 29 | 28 | .. | 1 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 3 | 3 | .. | .. | .. |
| Hastings, West | 41 | 41 | 41 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 5 | 5 | 5 | .. | .. | .. |
| Huron, East | 26 | 24 | 24 | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Huron, South | 39 | 39 | 40 | 3 | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | 5 | 4 | 3 | .. | .. | .. |
| Huron, West | 41 | 40 | 39 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 3 | 2 | 2 | .. | .. | .. |
| Kent, East | 34 | 32 | 31 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | .. | .. | .. |
| Kent, West | 38 | 43 | 32 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 5 | 5 | 5 | 4 | .. | .. | 1 |
| Kingston | 39 | 38 | 39 | 1 | .. | .. | .. | 1 | .. | 2 | .. | .. | 2 | .. | 1 | 15 | 15 | 15 | .. | .. | .. |
| Lambton, East | 25 | 23 | 22 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 4 | 4 | .. | .. | .. | 4 |
| Lambton, West | 39 | 45 | 42 | 1 | 2 | .. | .. | 1 | 2 | .. | .. | .. | .. | .. | 3 | 5 | 6 | 6 | .. | .. | .. |
| Lanark, North | 20 | 26 | 24 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 3 | 2 | .. | .. | .. |
| Lanark, South | 19 | 19 | 20 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 4 | 4 | .. | .. | .. |
| Lennox | 15 | 16 | 16 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | 3 | 2 | 2 | .. | 1 | .. |
| Lincoln | 28 | 30 | 29 | 4 | 1 | 1 | 2 | 2 | 2 | .. | .. | .. | .. | .. | .. | 3 | 3 | 3 | .. | .. | .. |
| London | 52 | 54 | 41 | 6 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 2 & 2 B. & W. | 12 & 3 B. & W. | 13 | 12 | 10 | .. | 1 | 1 |
| Manitoulin | 17 | 17 | 19 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 1 | .. | .. | .. | .. |

* One wholesal

## SCHEDULE A.

Tavern, Shop, Wholesale, Six Months, and Vessel Licenses issued, and the number of received by the Province therefrom, including the proportion of fines, in the and 1891 2 respectively.

| Wholesale Licenses Issued. | | | Vessel Licenses Issued. | | | | | | Licenses Transferred and Removed. | | | | | | Totals. | | | Proportion of Duties for Provincial Licenses, Fees for Transfers and Removals, and Fines received by the Province. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ordinary. | | | Beer and Wine. | | | Transfers. | | | Removals. | | | | | | | | |
| 1889-90. | 1890 1. | 1891 2. | 1889-90. | 1890-1. | 1891 2. | 1889-90. | 1890-1. | 1891 2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| | | | | | | | | | | | | | | | | | | $ c. | $ c. | $ c. |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 6 | 9 | .. | 1 | 1 | 43 | 40 | 40 | 1,633 02 | 1,570 84 | 1,421 50 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 4 | 4 | .. | .. | .. | 38 | 40 | 36 | 2,514 50 | 2,724 02 | 2,181 12 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | 6 | .. | .. | .. | 21 | 21 | 24 | 1,193 33 | 1,230 03 | 1,108 35 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | 3 | .. | .. | .. | 12 | 12 | 14 | 270 00 | 286 73 | 240 00 |
| 3 | 2 | 1 | .. | .. | .. | .. | .. | .. | 6 | 6 | 7 | .. | 1 | .. | 32 | 32 | 31 | 3,320 48 | 3,144 67 | 2,971 67 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | 4 | .. | .. | .. | 56 | 52 | 54 | 3,320 43 | 5,151 08 | 5,083 31 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 4 | 2 | .. | 1 | .. | 37 | 34 | 30 | 2,060 33 | 1,906 67 | 1,835 25 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 12 | 13 | 21 | .. | .. | 2 | 43 | 43 | 55 | 1,880 00 | 1,850 17 | 2,029 99 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 19 | 6 | 11 | .. | 1 | .. | 65 | 52 | 54 | 2,918 23 | 2,796 49 | 2,711 97 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 9 | 6 | 7 | .. | 1 | .. | 52 | 50 | 49 | 2,375 65 | 2,299 87 | 2,090 13 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 7 | 1 | .. | .. | 28 | 34 | 34 | 1,197 85 | 1,269 44 | 1,344 25 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 2 | 7 | .. | .. | .. | 36 | 32 | 36 | 2,113 86 | 2,030 55 | 2,107 18 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 12 | 8 | 2 | .. | .. | .. | 41 | 36 | 28 | 1,868 56 | 1,798 75 | 1,707 49 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 1 | 1 | .. | 1 | .. | 31 | 22 | 20 | 1,485 06 | 1,305 22 | 1,215 35 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 2 | .. | .. | .. | 26 | 23 | 27 | 2,220 95 | 2,145 36 | 2,411 84 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 2 | 5 | 1 | .. | .. | 25 | 19 | 23 | 887 69 | 964 12 | 933 05 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 7 | 7 | 1 | .. | .. | 36 | 37 | 35 | 1,749 12 | 1,582 64 | 1,563 51 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 7 | 9 | 3 | 1 | .. | 55 | 52 | 49 | 4,486 33 | 3,764 81 | 3,763 56 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 14 | 11 | 6 | .. | .. | .. | 83 | 84 | 76 | 4,838 04 | 5,045 45 | 5,101 27 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 3 | 4 | .. | 1 | .. | 45 | 40 | 37 | 2,535 64 | 2,361 34 | 2,177 67 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 5 | 5 | .. | .. | .. | 26 | 31 | 33 | 1,032 48 | 1,072 95 | 1,181 03 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 2 | 5 | .. | .. | .. | 42 | 38 | 45 | 1,919 50 | 1,847 78 | 2,037 16 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 2 | 6 | .. | .. | .. | 39 | 38 | 41 | 2,438 23 | 2,337 95 | 2,328 74 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 3 | 8 | 1 | .. | .. | 35 | 31 | 35 | 1,484 75 | 1,363 85 | 1,384 25 |
| .. | .. | .. | .. | .. | .. | .. | 1 | .. | 4 | 4 | 5 | .. | .. | .. | 35 | 31 | 31 | 2,417 64 | 2,222 76 | 2,060 33 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 6 | .. | .. | .. | 34 | 32 | 33 | 1,816 93 | 1,808 67 | 1,483 24 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 5 | 6 | .. | .. | .. | 37 | 45 | 45 | 1,903 25 | 2,264 46 | 2,151 21 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .. | .. | 8 | 9 | 8 | 301 64 | 286 86 | 339 84 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 2 | 6 | .. | .. | .. | 31 | 29 | 34 | 1,936 46 | 1,837 72 | 1,867 64 |
| 3 | 3 | 3 | .. | .. | .. | .. | .. | .. | 23 | 21 | 20 | 4 | 9 | 1 | 179 | 168 | 158 | 25,051 38 | 24,555 72 | 24,026 66 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 5 | 7 | .. | .. | .. | 35 | 36 | 38 | 1,785 77 | 1,684 21 | 1,809 41 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 6 | 5 | .. | .. | .. | 35 | 39 | 38 | 1,671 79 | 1,674 75 | 1,640 95 |
| 2 | 2 | 2 | .. | .. | .. | .. | .. | .. | 14 | 9 | 6 | 1 | 1 | 2 | 63 | 59 | 56 | 5,209 35 | 5,196 99 | 5,222 72 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 6 | 10 | 2 | 2 | 1 | 31 | 32 | 36 | 1,300 92 | 1,162 12 | 1,224 08 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 9 | 10 | .. | .. | .. | 54 | 53 | 54 | 2,839 71 | 2,734 25 | 2,708 96 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 8 | 9 | .. | .. | .. | 48 | 50 | 51 | 3,346 03 | 3,202 63 | 3,112 84 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 6 | 14 | .. | 2 | .. | 40 | 41 | 46 | 2,182 47 | 2,264 29 | 2,230 36 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 13 | 9 | .. | .. | .. | 49 | 62 | 51 | 5,001 05 | 5,578 38 | 4,626 40 |
| 1 | 1 | 1 | 4 | .. | .. | 3 | .. | .. | 3 | 7 | 7 | 1 | .. | .. | 69 | 63 | 64 | 8,526 18 | 7,358 20 | 7,644 59 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 3 | 6 | .. | .. | .. | 33 | 31 | 32 | 2,066 42 | 1,975 94 | 1,618 86 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 12 | 10 | .. | .. | 2 | 49 | 66 | 65 | 3,219 84 | 3,731 81 | 3,579 79 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | 22 | 29 | 28 | 1,517 07 | 2,107 07 | 1,941 22 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 5 | 3 | .. | .. | .. | 27 | 28 | 27 | 1,828 86 | 1,802 47 | 1,934 29 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 3 | 2 | .. | .. | .. | 25 | 22 | 20 | 1,330 27 | 1,299 21 | 1,324 34 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 4 | 7 | 2 | .. | .. | 47 | 40 | 42 | 2,417 10 | 2,476 72 | 2,323 89 |
| 1 | 1 | .. | .. | .. | .. | .. | .. | .. | 9 | 9 | 15 | 1 | 1 | 4 | 82 | 84 | 87 | 12,280 10 | 12,504 28 | 10,095 34 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | .. | .. | .. | 19 | 20 | 21 | 949 85 | 1,256 68 | 1,311 76 |

License extended.

SCHEDULE A.—Comparative Statement shewing the number of (Provincial)

| License District. | Tavern Licenses Issued. | | | | | | | | | | | | Tavern Licenses Extended. | | | Shop Licenses Issued. | | | Shop Licenses Extended. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Yearly Licenses. | | | | | | Six Months' Licenses. | | | | | | | | | | | | | | |
| | Ordinary. | | | Beer and Wine. | | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | |
| | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Middlesex, East | 24 | 33 | 34 | 3 | 5 | 6 | | | | | | | | | | | | | | | |
| Middlesex, North | 22 | 25 | 25 | 5 | 3 | 2 | | | | | | | | | | 5 | 5 | 4 | | | |
| Middlesex, West | 25 | 26 | 25 | 3 | 1 | 1 | | | | | | | | | | 3 | 1 | 1 | | | |
| Monck | 13 | 12 | 10 | 5 | 7 | 8 | 1 | 1 | 1 | | | | | | | 1 | 1 | 1 | | | |
| Muskoka | 15 | 15 | 17 | 4 | 6 | 4 | 3 | 3 | 3 | 3 | 1 | | | | | 2 | 1 | 1 | | | |
| Nipissing | 23 | 27 | 26 | | | | | | 1 | | | | 1 | | | 4 | 4 | 5 | | 1 | |
| Norfolk, North | 18 | 20 | 19 | 3 | 2 | 3 | | | | | | | | | | 3 | 2 | 2 | | | |
| Norfolk, South | 17 | 15 | 16 | 3 | 2 | 1 | | | | 1 | 1 | 1 | | | | | | | | | |
| Northumberland, East | 20 | 20 | 19 | | | | 1 | 1 | 1 | | | | | 1 | | 6 | 5 | 5 | | | |
| Northumberland, West | 24 | 21 | 22 | 1 | | | 2 | 4 | 4 | | | | | 2 | | 4 | 4 | 4 | | | |
| Ontario, North | 24 | 25 | 28 | 5 | 3 | 2 | 1 | 1 | 2 | | | | | | | 5 | 5 | 2 | | | |
| Ontario, South | 35 | 34 | 31 | | | | | | | | | | | 2 | | 2 | 2 | 2 | | | |
| Ottawa | 80 | 88 | 87 | | | | 1 | | | | | | | | | 56 | 59 | 59 | 4 | | |
| Oxford, North | 28 | 31 | 31 | | | | | | | | | | | | | 3 | 3 | 2 | | | |
| Oxford, South | 24 | 27 | 26 | | | | | | | | | | | 1 | 1 | 3 | 4 | 3 | | | |
| Parry Sound | 25 | 26 | 26 | 1 | | | 1 | 1 | 1 | | | | | | 2 | | | | | | |
| Peel | 42 | 43 | 41 | 1 | 1 | 1 | | | | | | | 2 | | | 3 | 3 | 3 | | | |
| Perth, North | 58 | 57 | 57 | 1 | 1 | | | | | | | | | | 2 | 5 | 5 | 4 | | | 1 |
| Perth, South | 31 | 35 | 33 | | | | | | | | | | | 1 | | 4 | 4 | 4 | | | |
| Peterborough, East | 15 | 13 | 13 | 1 | 1 | | | | | | | | | | | 2 | 2 | | | | |
| Peterborough, West | 26 | 27 | 30 | 1 | | 2 | 1 | 1 | 1 | | | | | | | 8 | 9 | 9 | | | |
| Prescott | 42 | 43 | 40 | | | | 1 | 2 | 1 | | | | 2 | | | 1 | 2 | 3 | | | |
| Prince Edward | 15 | 16 | 16 | 1 | 2 | 2 | 1 | 1 | 1 | | | | | | | 2 | 2 | 2 | | | |
| Rainy River | 12 | 11 | 11 | | | | | | | | | | | | 4 | 3 | 3 | 3 | | | |
| Renfrew, North | 23 | 24 | 23 | | | | | | | | | | | | | 5 | 5 | 5 | | | |
| Renfrew, South | 31 | 32 | 27 | 1 | | | | | | | | | | 1 | | 11 | 11 | 8 | | | |
| Russell | 52 | 53 | 53 | | | | | | | | | | | | | | | | | | |
| St. Catharines | 23 | 23 | 22 | 3 | 3 | 4 | 1 | 1 | 1 | | | | | | | 6 | 5 | 4 | 1 | | |
| Simcoe, Centre | 22 | 22 | 21 | | | | 2 | 1 | 1 | | | | | | | 4 | 3 | 3 | | | |
| Simcoe, East | 32 | 32 | 30 | | | | 1 | 1 | 1 | | | | | | 1 | 5 | 6 | 5 | | | |
| Simcoe, West | 39 | 39 | 34 | | | | | | | | | | 1 | | 1 | 7 | 6 | 7 | | | |
| Stormont | 26 | 26 | 21 | | | | | | | | | | | | | 1 | | | | | |
| Thunder Bay | 33 | 34 | 34 | | 1 | | | 2 | 3 | | | 1 | | 4 | 1 | 7 | 6 | 6 | | | |
| Toronto | 152 | 150 | 150 | | | | 1 | 1 | | | | | 2 | 2 | 2 | 50 | 50 | 50 | 6 | 1 | |
| Victoria, East | 18 | 19 | 19 | | | 1 | 1 | 1 | 1 | | | | | 1 | | | | | | | |
| Victoria, West | 28 | 25 | 27 | | | | | | | | | | | 3 | | 2 | 2 | 2 | | | |
| Waterloo, North | 47 | 47 | 46 | | | 1 | | | | | | | | | | 5 | 5 | 5 | | | |
| Waterloo, South | 44 | 45 | 44 | | | | | | | | | | | | 1 | 5 | 5 | 5 | | | |
| Welland | 68 | 68 | 65 | 2 | 2 | 3 | 9 | 6 | 4 | 1 | 1 | 1 | | | 3 | 9 | 9 | 9 | | | |
| Wellington, East | 29 | 30 | 30 | | | | | | | | | | | | | 2 | 2 | 2 | | | |
| Wellington, South | 31 | 31 | 34 | | | | | | | | | | | | | 2 | 2 | 2 | | | |
| Wellington, West | 34 | 32 | 32 | | | | | | | | | | | 1 | 1 | 3 | 2 | 1 | | | |
| Wentworth, North | 26 | 25 | 25 | 2 | 2 | 2 | | | | | | | | | | 2 | 2 | 2 | | | |
| Wentworth, South | 21 | 22 | 21 | | | 1 | | | | | | 1 | | | | 1 | 2 | 1 | | | 1 |
| York, East | 30 | 29 | 27 | | | 1 | 1 | | | | | 1 | 1 | | 1 | | | | | | |
| York, North | 41 | 40 | 39 | 4 | 5 | 4 | 2 | | 1 | | | | | 1 | 1 | 1 | 2 | 2 | | | |
| York, West | 37 | 34 | 34 | | | | | | | | | | | 4 | 3 | | | 1 | | | |
| Totals | 2,992 | 3,005 | 2,923 | 81 | 66 | 67 | 40 | 45 | 45 | 9 | 10 | 5 | 35 | 45 | 68 | 445 | 428 | 403 | 11 | 6 | 11 |

Tavern, Shop, Wholesale, Six Months' and Vessel Licenses, etc.—*Continued.*

| Wholesale Licenses Issued. | | | Vessel Licenses Issued. | | | | | | Licenses Transferred and Removed. | | | | | | Totals. | | | Proportion of Duties for Provincial Licenses, Fees for Transfers and Removals, and Fines received by the Province. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Ordinary. | | | Beer and Wine. | | | Transfers. | | | Removals. | | | | | | | | |
| 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| | | | | | | | | | | | | | | | | | | $ c. | $ c. | $ c. |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 4 | 1 | .. | .. | .. | 29 | 42 | 41 | 1,142 89 | 1,553 83 | 1,627 43 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 2 | 5 | .. | .. | 1 | 37 | 35 | 37 | 1,826 97 | 1,937 08 | 1,929 66 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 3 | 3 | .. | 1 | .. | 35 | 32 | 30 | 1,941 36 | 1,835 99 | 1,727 28 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 4 | 3 | .. | .. | .. | 25 | 25 | 23 | 881 04 | 830 67 | 774 74 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 5 | 2 | .. | .. | .. | 29 | 31 | 27 | 1,380 43 | 1,391 84 | 1,354 17 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | .. | .. | 1 | 28 | 35 | 36 | 1,279 24 | 1,510 00 | 1,774 45 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 8 | 7 | 1 | .. | .. | 31 | 32 | 31 | 1,552 07 | 1,502 49 | 1,507 70 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 3 | 2 | .. | .. | .. | 23 | 21 | 20 | 861 90 | 791 88 | 842 50 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 6 | .. | .. | 1 | 29 | 28 | 32 | 1,673 55 | 1,653 63 | 1,554 49 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | .. | 7 | .. | .. | .. | 35 | 31 | 37 | 2,114 50 | 1,924 76 | 2,014 30 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 8 | 10 | .. | .. | .. | 40 | 42 | 44 | 1,765 66 | 1,851 94 | 1,834 44 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 4 | 6 | .. | .. | 1 | 40 | 42 | 40 | 2,538 69 | 2,454 75 | 2,223 81 |
| 1 | 2 | 1 | .. | .. | .. | 1 | .. | .. | 12 | 24 | 22 | 12 | 10 | 6 | 167 | 183 | 175 | 25,347 69 | 27,092 07 | 26,830 67 |
| 1 | 1 | 1 | .. | .. | .. | .. | .. | .. | 9 | 8 | 8 | .. | 1 | .. | 41 | 44 | 42 | 2,314 45 | 2,645 89 | 2,541 24 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 5 | 7 | 1 | .. | .. | 33 | 37 | 37 | 1,934 17 | 2,266 09 | 2,163 64 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 6 | 10 | 1 | 1 | .. | 30 | 34 | 39 | 1,410 71 | 1,599 49 | 1,617 90 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 8 | 7 | .. | .. | .. | 55 | 55 | 52 | 2,632 38 | 2,565 68 | 2,521 88 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 13 | 5 | .. | 1 | .. | 70 | 77 | 69 | 5,545 98 | 5,582 61 | 5,449 11 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 9 | 5 | .. | .. | .. | 48 | 49 | 42 | 2,678 57 | 2,647 00 | 2,479 49 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 3 | 4 | .. | .. | .. | 21 | 19 | 17 | 893 77 | 815 25 | 591 66 |
| .. | .. | .. | .. | .. | .. | 1 | .. | .. | 2 | 9 | 1 | .. | .. | 1 | 39 | 46 | 44 | 3,112 87 | 3,280 10 | 3,473 57 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 8 | 3 | .. | .. | .. | 54 | 55 | 47 | 2,280 53 | 2,306 03 | 2,220 79 |
| .. | .. | .. | 2 | .. | .. | .. | .. | .. | 3 | 7 | 5 | .. | .. | 1 | 24 | 28 | 27 | 1,484 94 | 1,216 78 | 1,203 06 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 1 | .. | .. | .. | 19 | 15 | 19 | 720 72 | 972 45 | 1,001 36 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .. | .. | 29 | 30 | 28 | 1,808 34 | 1,922 78 | 1,905 53 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 6 | 7 | 1 | 2 | .. | 52 | 52 | 42 | 2,553 49 | 2,679 96 | 2,315 32 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 16 | 6 | .. | 1 | .. | 59 | 70 | 59 | 2,565 35 | 2,744 21 | 2,677 35 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 6 | 4 | 1 | 1 | .. | 37 | 39 | 35 | 3,901 73 | 3,725 57 | 3,498 16 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 2 | 10 | .. | .. | 1 | 36 | 28 | 36 | 1,762 96 | 1,616 78 | 1,565 57 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 11 | 9 | 1 | 1 | .. | 44 | 51 | 46 | 2,647 41 | 2,743 18 | 2,530 49 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 8 | 5 | .. | .. | .. | 54 | 53 | 47 | 3,206 96 | 3,242 47 | 3,064 15 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 5 | .. | .. | 1 | .. | 31 | 32 | 21 | 1,154 87 | 1,073 77 | 884 15 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 4 | 4 | 1 | 1 | 2 | 43 | 52 | 50 | 3,026 38 | 3,151 60 | 3,091 84 |
| 14 | 11 | 11 | 2 | .. | .. | 1 | .. | .. | 34 | 39 | 30 | 15 | 6 | 4 | 277 | 260 | 247 | 39,493 49 | 37,509 77 | 37,872 63 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 6 | 1 | 3 | .. | .. | 28 | 27 | 22 | 1,125 21 | 1,215 07 | 1,194 70 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 3 | 7 | 1 | 1 | 1 | 39 | 34 | 37 | 2,166 67 | 1,911 28 | 2,116 10 |
| 1 | 1 | 1 | .. | .. | .. | .. | .. | .. | 4 | 5 | 10 | .. | .. | 1 | 57 | 58 | 64 | 3,687 18 | 3,741 05 | 3,691 42 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .. | 49 | 51 | 52 | 3,271 92 | 3,361 59 | 3,342 79 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 17 | 17 | 15 | .. | 1 | 1 | 106 | 104 | 101 | 5,838 32 | 5,853 23 | 5,765 86 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 5 | 2 | 7 | .. | .. | 2 | 36 | 34 | 41 | 2,104 31 | 2,145 78 | 2,189 87 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 8 | 8 | 12 | .. | .. | .. | 41 | 41 | 48 | 2,942 19 | 2,949 11 | 3,106 80 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 11 | 8 | 9 | .. | .. | .. | 48 | 43 | 43 | 2,576 52 | 2,438 23 | 2,370 96 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 7 | 5 | .. | .. | .. | 34 | 36 | 34 | 1,689 62 | 1,670 22 | 1,677 80 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 2 | 2 | .. | 1 | .. | 29 | 28 | 26 | 980 58 | 1,055 70 | 962 13 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 4 | 3 | 6 | .. | .. | .. | 36 | 33 | 35 | 1,617 90 | 1,552 47 | 1,390 03 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 11 | 7 | 8 | .. | .. | .. | 57 | 55 | 55 | 2,649 25 | 2,724 87 | 2,728 95 |
| .. | .. | .. | .. | .. | .. | .. | .. | .. | 6 | 7 | 3 | .. | .. | .. | 43 | 45 | 41 | 2,181 35 | 2,106 21 | 2,194 08 |
| 27 | 24 | 21 | 8 | .. | .. | 7 | .. | .. | 534 | 574 | 609 | 56 | 53 | 37 | 4,246 | 4,256 | 4,189 | 307,281 02 | 308,200 17 | 300,604 38 |

## SCHEDULE B.

COMPARATIVE STATEMENT by COUNTIES AND CITIES, showing the number of (Provincial) Tavern, Shop, Wholesale and Vessel Licenses issued in the several Counties of the Province, and the Cities separated from Counties, for the license years 1874-5-6-7-8-9-80-1-2-3-4-5-6-7-8-9-90-1.

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Algoma (including Thunder Bay) | 1874 | 30 | 14 | ..... | 3 | |
| | 1875 | 36 | 15 | ..... | 3 | |
| | 1876 | 18 | 6 | | | |
| | 1877 | 19 | 5 | | | |
| | 1878 | 19 | 5 | | | |
| | 1879 | 21 | 8 | 1 | | |
| | 1880 | 22 | 6 | 1 | | |
| | 1881 | 29 | 9 | 1 | | |
| | 1882 | 35 | 9 | 1 | | |
| | 1883 | 56 | 6 | 1 | | |
| | 1884 | 74 | 12 | 2 | | |
| | 1885 | 58 | 12 | 1 | | |
| | 1886 | 62 | 16 | 1 | | |
| | 1887 | 78 | 11 | 2 | | |
| | 1888 | 83 | 16 | 1 | | |
| | 1889 | 90 | 17 | | | |
| | 1890 | 94 | 15 | | | |
| | 1891 | 94 | 11 | | | |
| Brant (not including City of Brantford) | 1874 | 95 | 29 | | | |
| | 1875 | 73 | 22 | 2 | | |
| | 1876 | 56 | 14 | 4 | | |
| | 1877 | ..... | ..... | 7 | ..... | Dunkin Act in force. |
| | 1878 | 53 | 11 | 5 | | |
| | 1879 | 55 | 14 | 1 | | |
| | 1880 | 57 | 14 | 1 | | |
| | 1881 | 55 | 14 | 1 | | |
| | 1882 | 59 | 13 | 1 | | |
| | 1883 | 58 | 11 | 1 | | |
| | 1884 | 49 | 7 | | | |
| | 1885 | 44 | 7 | 1 | | |
| | 1886 | ..... | ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | ..... | ..... | ..... | ..... | do |
| | 18-9 | 26 | 2 | | | |
| | 1890 | 26 | 2 | | | |
| | 1891 | 22 | 2 | | | |
| Bruce | 1874 | 180 | 25 | | | |
| | 1875 | 119 | 22 | | | |
| | 1876 | 88 | 13 | 3 | | |
| | 1877 | 83 | 12 | 2 | | |
| | 1878 | 83 | 9 | 2 | ..... | Dunkin Act in force for 10 months..... |
| | 1879 | 93 | 12 | | | |
| | 1880 | 98 | 14 | | | |
| | 1881 | 105 | 15 | | | |
| | 1882 | 109 | 18 | | | |
| | 1883 | 108 | 16 | | | |
| | 1884 | 99 | 15 | | | |
| | 1885 | ..... | ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1886 | ..... | ..... | ..... | ..... | do |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | 97 | 6 | | | |
| | 1889 | 102 | 6 | | | |
| | 1890 | 98 | 6 | | | |
| | 1891 | 97 | 6 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Carleton (not including Ottawa) | 1874 | 89 | 5 | | | |
| | 1875 | 79 | 8 | | | |
| | 1876 | 44 | 1 | 2 | | |
| | 1877 | 55 | 3 | | | |
| | 1878 | 43 | 3 | | | |
| | 1879 | 43 | 1 | | | |
| | 1880 | 42 | 3 | | | |
| | 1881 | 50 | 3 | | | |
| | 1882 | 54 | 1 | | | |
| | 1883 | 58 | | | | |
| | 1884 | 58 | 1 | | | |
| | 1885 | 55 | | | | |
| | 1886 | | | | | Can. Temp. Act in force. |
| | 1887 | | | | | do |
| | 1888 | | | | | do |
| | 1889 | 44 | 1 | | | |
| | 1890 | 44 | 1 | | | |
| | 1891 | 45 | | | | |
| Dufferin | 1881 | 33 | 7 | | | New County erected 24th January, 1881. |
| | 1882 | 33 | 5 | | | |
| | 1883 | 34 | 5 | | | |
| | 1884 | 34 | 4 | | | |
| | 1885 | | | | | Can. Temp. Act in force. |
| | 1886 | | | | | do |
| | 1887 | | | | | do |
| | 1888 | 24 | 2 | | | |
| | 1889 | 27 | 2 | | | |
| | 1890 | 26 | 2 | | | |
| | 1891 | 24 | 2 | | | |
| Elgin | 1874 | 113 | 25 | | | |
| | 1875 | 110 | 24 | | | |
| | 1876 | 66 | 16 | 2 | | |
| | 1877 | 66 | 10 | | | |
| | 1878 | 69 | 12 | | | |
| | 1879 | 72 | 16 | | | |
| | 1880 | 74 | 12 | | | |
| | 1881 | 74 | 13 | | | |
| | 1882 | 74 | 13 | | | |
| | 1883 | 74 | 16 | | | |
| | 1884 | 74 | 12 | | | |
| | 1885 | 71 | 10 | | | |
| | 1886 | | | | | Can. Temp. Act in force. |
| | 1887 | | | | | do |
| | 1888 | | | | | do |
| Not including St. Thomas. | 1889 | 48 | 2 | | | |
| | 1890 | 44 | 1 | | | |
| | 1891 | 43 | 1 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Essex | 1874 | 120 | 28 | 6 | | |
| | 1875 | 101 | 25 | 6 | | |
| | 1876 | 62 | 14 | 5 | 1 | |
| | 1877 | 69 | 18 | 1 | 1 | |
| | 1878 | 69 | 18 | 2 | 1 | |
| | 1879 | 71 | 18 | 3 | 1 | |
| | 1880 | 70 | 19 | 2 | 1 | |
| | 1881 | 74 | 21 | 2 | | |
| | 1882 | 71 | 20 | 2 | | |
| | 1883 | 74 | 19 | 2 | | |
| | 1884 | 70 | 15 | 1 | | |
| | 1885 | 77 | 13 | | | |
| | 1886 | 74 | 16 | | | |
| | 1887 | 84 | 15 | | | |
| | 1888 | 82 | 10 | | | |
| | 1889 | 95 | 12 | | | |
| | 1890 | 94 | 8 | | | |
| Not including Windsor | 1891 | 68 | 5 | | | |
| Frontenac (not including Kingston) | 1874 | 71 | 2 | | | |
| | 1875 | 57 | 29 | | | |
| | 1876 | 29 | .... ..... | 1 | | |
| | 1877 | 17 | ..... | ... ..... | ..... | Dunkin Act assumed to be in force until quashed, December 28th. |
| | 1878 | 34 | | | | |
| | 1879 | 36 | | | | |
| | 1880 | 33 | 1 | | | |
| | 1881 | 33 | 1 | | | |
| | 1882 | 33 | 2 | | | |
| | 1883 | 36 | 2 | | | |
| | 1884 | 34 | 2 | | | |
| | 1885 | 34 | 1 | | | |
| | 1886 | ..... | ... ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1887 | ..... | ..... | ..... | ..... .... | do |
| | 1888 | ..... | .... ..... | .... ..... | ..... | do |
| | 1889 | 23 | | | | |
| | 1890 | 25 | | | | |
| | 1891 | 28 | | | | |
| Grey | 1874 | 115 | 20 | | 3 | |
| | 1875 | 114 | 16 | | 2 | |
| | 1876 | 77 | 11 | 5 | 2 | |
| | 1877 | ..... | ..... | 6 | 2 | Dunkin Act in force. |
| | 1878 | 72 | 7 | 4 | 1 | Dunkin Act in force until September. |
| | 1879 | 91 | 12 | 1 | 1 | |
| | 1880 | 88 | 17 | 1 | 2 | |
| | 1881 | 84 | 16 | ..... | 1 | Melancthon and Shelburne attached to new County of Dufferin. |
| | 1882 | 88 | 18 | ..... | 1 | |
| | 1883 | 95 | 20 | ..... | 3 | |
| | 1884 | 91 | 19 | ..... | 1 | |
| | 1885 | 92 | 18 | | | |
| | 1886 | 92 | 16 | ..... | 3 | |
| | 1887 | 86 | 14 | ..... | 3 | |
| | 1888 | 84 | 7 | ..... | 4 | |
| | 1889 | 84 | 6 | ..... | 1 | |
| | 1890 | 81 | 6 | | | |
| | 1891 | 75 | 5 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Haldimand | 1874 | 96 | 16 | | | |
| | 1875 | 83 | 13 | | | |
| | 1876 | 45 | 5 | | | |
| | 1877 | 49 | 4 | | | |
| | 1878 | 49 | 4 | | | |
| | 1879 | 50 | 5 | | | |
| | 1880 | 47 | 5 | | | |
| | 1881 | 51 | 5 | | | |
| | 1882 | 52 | 5 | | | |
| | 1883 | 51 | 5 | | | |
| | 1884 | 47 | 5 | | | |
| | 1885 | 47 | 3 | | | The licenses issued in the Monck portion of this County are not included in this schedule in 1887; they are 9 hotel and 2 shop. |
| | 1886 | 48 | 4 | | | |
| | 1887 | 40 | 2 | ..... | ..... | |
| | 1888 | 43 | 4 | | | |
| | 1889 | 45 | 3 | | | |
| | 1890 | 49 | 3 | | | |
| | 1891 | 47 | 3 | | | |
| Haliburton | 1886 | 7 | .... .... | ..... | ..... | See Victoria, *post.* |
| | 1887 | 6 | | | | |
| | 1888 | 6 | | | | |
| | 1889 | 7 | | | | |
| | 1890 | 7 | | | | |
| | 1891 | 8 | | | | |
| Halton | 1874 | 61 | 4 | | | |
| | 1875 | 58 | 5 | | | |
| | 1876 | 39 | 2 | 1 | | |
| | 1877 | 38 | 1 | | | |
| | 1878 | 38 | 1 | | | |
| | 1879 | 42 | 1 | | | |
| | 1880 | 41 | 1 | | | |
| | 1881 | 41 | 1 | | | |
| | 1882 | ..... | ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1883 | ..... ... | ..... | ..... | ..... | do |
| | 1884 | ..... | ..... | ..... | ..... | do |
| | 1885 | ..... | .... ..... | ..... | ..... | do |
| | 1886 | ..... | ..... | ..... | ..... | do |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | 28 | | | | |
| | 1889 | 28 | | | | |
| | 1890 | 27 | | | | |
| | 1891 | 27 | | | | |
| Hastings | 1874 | 117 | 23 | 1 | | |
| | 1875 | 100 | 21 | 2 | | |
| | 1876 | 76 | 11 | 3 | 1 | |
| | 1877 | 82 | 14 | 3 | 1 | |
| | 1878 | 89 | 15 | 3 | 2 | |
| | 1879 | 94 | 15 | 3 | 1 | |
| | 1880 | 91 | 16 | 3 | | |
| | 1881 | 90 | 15 | 3 | | |
| | 1882 | 95 | 13 | 3 | | |
| | 1883 | 97 | 15 | 3 | | |
| | 1884 | 99 | 15 | 3 | | |
| | 1885 | 98 | 17 | 3 | | |
| | 1886 | 104 | 16 | 2 | | |
| | 1887 | 102 | 13 | 2 | | |
| | 1888 | 96 | 13 | 3 | | |
| Not including Belleville... | 1889 | 73 | 9 | | | |
| " " ... | 1890 | 74 | 8 | | | |
| " " ... | 1891 | 74 | 8 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Huron | 1874 | 150 | 38 | | | |
| | 1875 | 164 | 37 | 2 | | |
| | 1876 | 113 | 16 | 3 | | |
| | 1877 | 124 | 16 | | | |
| | 1878 | 127 | 20 | | | |
| | 1879 | 134 | 21 | | | |
| | 1880 | 131 | 16 | | | |
| | 1881 | 128 | 15 | | | |
| | 1882 | 124 | 15 | | | |
| | 1883 | 124 | 15 | | | |
| | 1884 | 111 | 14 | | | |
| | 1885 | ..... | ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1886 | ..... | ..... | ..... | ..... | do |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | 108 | 11 | | | |
| | 1889 | 109 | 8 | | | |
| | 1890 | 103 | 6 | | | |
| | 1891 | 104 | 5 | | | |
| Kent | 1874 | 128 | 41 | ..... | 1 | |
| | 1875 | 118 | 34 | ..... | 1 | |
| | 1876 | 66 | 13 | 4 | 1 | |
| | 1877 | 67 | 15 | ..... | 1 | |
| | 1878 | 65 | 13 | | | |
| | 1879 | 67 | 14 | | | |
| | 1880 | 67 | 13 | | | |
| | 1881 | 69 | 13 | ..... | 1 | |
| | 1882 | 69 | 14 | ..... | 1 | |
| | 1883 | 70 | 14 | | | |
| | 1884 | 75 | 11 | | | |
| | 1885 | 71 | 8 | | | |
| | 1886 | ..... | ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | ..... | ..... | ..... | ..... | do |
| | 1889 | 72 | 6 | | | |
| | 1890 | 75 | 6 | | | |
| | 1891 | 63 | 5 | | | |
| Lambton | 1874 | 89 | 44 | 1 | | |
| | 1875 | 85 | 33 | | | |
| | 1876 | 65 | 28 | 1 | | |
| | 1877 | 65 | 25 | | | |
| | 1878 | 70 | 27 | | | |
| | 1879 | 72 | 26 | | | |
| | 1880 | 71 | 25 | | | |
| | 1881 | 72 | 22 | | | |
| | 1882 | 75 | 22 | | | |
| | 1883 | 73 | 19 | | | |
| | 1884 | 74 | 16 | 1 | | |
| | 1885 | 70 | 10 | 1 | | |
| | 1886 | ..... | ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | ..... | ..... | ..... | ..... | do |
| | 1889 | 65 | 9 | | | |
| | 1890 | 70 | 10 | | | |
| | 1891 | 64 | 6 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Lanark | 1874 | 62 | 20 | 2 | | |
| | 1875 | 62 | 14 | 1 | | |
| | 1876 | 32 | 9 | 2 | | |
| | 1877 | 32 | 9 | | | |
| | 1878 | 7 | 4 | | | Dunkin Act in force, except in Perth. |
| | 1879 | 33 | 6 | | | |
| | 1880 | 34 | 8 | | | |
| | 1881 | 36 | 6 | | | |
| | 1882 | 36 | 7 | | | |
| | 1883 | 35 | 7 | | | |
| | 1884 | 36 | 7 | | | |
| | 1885 | 37 | 6 | | | |
| | 1886 | | | | | Can. Temp. Act in force. |
| | 1887 | | | | | do |
| | 1888 | | | | | do |
| | 1889 | 39 | 6 | | | |
| | 1890 | 45 | 7 | | | |
| | 1891 | 44 | 6 | | | |
| Leeds and Grenville | 1874 | 145 | 32 | 1 | | |
| | 1875 | 136 | 23 | 1 | | |
| | 1876 | 79 | 23 | 3 | | |
| | 1877 | 101 | 25 | | | |
| | 1878 | 97 | 19 | | | |
| | 1879 | 97 | 18 | | | |
| | 1880 | 97 | 20 | 1 | | |
| | 1881 | 89 | 18 | | | |
| | 1882 | 92 | 21 | | | |
| | 1883 | 94 | 21 | | | |
| | 1884 | 88 | 17 | | | |
| | 1885 | 87 | 17 | | | |
| | 1886 | | | | | Can. Temp. Act in force |
| | 1887 | | | | | do |
| | 1888 | | | | | do |
| | 1889 | 73 | 13 | | | |
| | 1890 | 70 | 10 | | | |
| | 1891 | 69 | 10 | | | |
| Lennox and Addington | 1874 | 52 | 7 | | 1 | |
| | 1875 | 46 | 8 | | | |
| | 1876 | 28 | 6 | 1 | | |
| | 1877 | | | 1 | | Dunkin Act in force. |
| | 1878 | 36 | 6 | | | |
| | 1879 | 37 | 5 | | | |
| | 1880 | 37 | 5 | | | |
| | 1881 | 41 | 5 | | | |
| | 1882 | 43 | 6 | | | |
| | 1883 | 45 | 6 | | | |
| | 1884 | 44 | 5 | | | |
| | 1885 | 42 | 5 | | | |
| | 1886 | | | | | Can. Temp. Act in force. |
| | 1887 | | | | | do |
| | 1888 | | | | | do |
| | 1889 | 52 | 3 | | | |
| | 1890 | 49 | 2 | | | |
| | 1891 | 46 | 2 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Lincoln (not including St. Catharines) | 1874 | 94 | 23 | | | |
| | 1875 | 103 | 37 | | | |
| | 1876 | 70 | 31 | | | |
| | 1877 | 70 | 25 | | | |
| | 1878 | 69 | 21 | | | |
| | 1879 | 72 | 16 | | | |
| | 1880 | 73 | 12 | | | |
| | 1881 | 69 | 14 | | | |
| | 1882 | 73 | 15 | | | |
| | 1883 | 72 | 13 | | | |
| | 1884 | 71 | 11 | | | |
| | 1885 | 64 | 10 | | | |
| | 1886 | ..... | ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | ..... | ..... | ..... | ..... | do |
| | 1889 | 36 | 3 | | | |
| | 1890 | 36 | 3 | | | |
| | 1891 | 35 | 3 | | | |
| Middlesex (not including London) | 1874 | 188 | 17 | 1 | | |
| | 1875 | 174 | 33 | | | |
| | 1876 | 122 | 26 | 3 | | |
| | 1877 | 139 | 23 | | | |
| | 1878 | 143 | 21 | | | |
| | 1879 | 141 | 19 | | | |
| | 1880 | 134 | 18 | | | |
| | 1881 | 138 | 18 | | | |
| | 1882 | 133 | 16 | | | |
| | 1883 | 130 | 18 | | | |
| | 1884 | 126 | 17 | | | |
| | 1885 | 128 | 16 | ..... | 1 | |
| | 1886 | ..... | ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | ..... | ..... | ..... | ..... | do |
| | 1889 | 82 | 8 | | | |
| | 1890 | 93 | 6 | | | |
| | 1891 | 93 | 5 | | | |
| Muskoka and Parry Sound. | 1874 | 9 | | | | |
| | 1875 | 23 | | | | |
| | 1876 | 19 | | | | |
| | 1877 | 22 | | | | |
| | 1878 | 29 | | | | |
| | 1879 | 38 | 1 | | | |
| | 1880 | 44 | 4 | | | |
| | 1881 | 45 | 4 | | | |
| | 1882 | 48 | 5 | | | |
| | 1883 | 49 | 6 | | | |
| | 1884 | 48 | 4 | | | |
| | 1885 | 37 | 1 | | | |
| | 1886 | 23 | | | | |
| | 1887 | 21 | | | | |
| | 1888 | 32 | 1 | | | |
| | 1889 | 45 | 2 | | | |
| | 1890 | 47 | 1 | | | |
| | 1891 | 47 | 1 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Nipissing | 1878 | 2 | 1 | | | |
| | 1879 | 3 | 1 | | | |
| | 1880 | 3 | 1 | | | |
| | 1881 | 11 | 8 | | | |
| | 1882 | 8 | 5 | | | |
| | 1883 | 9 | 5 | | | |
| | 1884 | 5 | 5 | | | |
| | 1885 | 23 | 6 | | | |
| | 1886 | 22 | 4 | | | |
| | 1887 | 24 | 5 | | | |
| | 1888 | 23 | 4 | | | |
| | 1889 | 23 | 4 | | | |
| | 1890 | 27 | 4 | | | |
| | 1891 | 26 | 5 | | | |
| Norfolk | 1874 | 73 | 6 | | | |
| | 1875 | 74 | 6 | | | |
| | 1876 | 51 | 4 | 2 | | |
| | 1877 | 51 | 5 | 1 | | |
| | 1878 | 55 | 5 | | | |
| | 1879 | 51 | 7 | | | |
| | 1880 | 51 | 6 | | | |
| | 1881 | 55 | 6 | | | |
| | 1882 | 56 | 6 | | | |
| | 1883 | 54 | 6 | | | |
| | 1884 | 51 | 4 | | | |
| | 1885 | ..... | ..... | ..... | ..... | Can. Temp. Act n orce |
| | 1886 | ..... | ..... | ..... | ..... | do |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | 37 | 4 | | | |
| | 1889 | 41 | 3 | | | |
| | 1890 | 39 | 2 | | | |
| | 1891 | 39 | 2 | | | |
| Northumberland and Durham | 1874 | 135 | 35 | 2 | 1 | |
| | 1875 | 121 | 32 | 2 | 1 | |
| | 1876 | 102 | 27 | 4 | 1 | |
| | 1877 | 103 | 25 | 2 | 1 | |
| | 1878 | 89 | 21 | 2 | 2 | Dunkin Act in force for 10 months, except in Port Hope and Cobourg. |
| | 1879 | 98 | 21 | ..... | 1 | |
| | 1880 | 100 | 22 | ..... | 1 | |
| | 1881 | 100 | 23 | ..... | 1 | |
| | 1882 | 102 | 23 | ..... | 1 | |
| | 1883 | 104 | 23 | ..... | 1 | |
| | 1884 | 101 | 19 | | | |
| | 1885 | 97 | 16 | | | |
| | 1886 | ..... | ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | ..... | ..... | ..... | ..... | do |
| | 1889 | 81 | 14 | | | |
| | 1890 | 74 | 13 | | | |
| | 1891 | 77 | 15 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Ontario | 1874 | 86 | 35 | | | |
| | 1875 | 87 | 23 | | | |
| | 1876 | 60 | 10 | | | |
| | 1877 | 58 | 9 | | | |
| | 1878 | 55 | 8 | 2 | | Dunkin Act in force for 10 months. |
| | 1879 | 61 | 9 | | | |
| | 1880 | 65 | 11 | | | |
| | 1881 | 66 | 12 | | | |
| | 1882 | 71 | 13 | | | |
| | 1883 | 72 | 12 | | | |
| | 1884 | 68 | 11 | | | |
| | 1885 | 67 | 12 | | | |
| | 1886 | | | | | Can. Temp. Act in force. |
| | 1887 | | | | | do |
| | 1888 | | | | | do |
| | 1889 | 64 | 7 | | | |
| | 1890 | 62 | 7 | | | |
| | 1891 | 60 | 4 | | | |
| Oxford | 1874 | 104 | 29 | | | |
| | 1875 | 102 | 25 | | | |
| | 1876 | 73 | 9 | 4 | | |
| | 1877 | 70 | 10 | 1 | | |
| | 1878 | 71 | 10 | | | |
| | 1879 | 74 | 12 | | | |
| | 1880 | 74 | 14 | | | |
| | 1881 | 73 | 13 | | | |
| | 1882 | 74 | 11 | | | |
| | 1883 | 72 | 9 | | | |
| | 1884 | 62 | 8 | | | |
| | 1885 | | | | | Can. Temp. Act in force |
| | 1886 | | | | | do |
| | 1887 | | | | | do |
| | 1888 | | | | | do |
| | 1889 | 52 | 6 | 1 | | |
| | 1890 | 58 | 7 | 1 | | |
| | 1891 | 57 | 5 | 1 | | |
| Peel | 1874 | 91 | 15 | | | |
| | 1875 | 86 | 15 | | | |
| | 1876 | 49 | 10 | | | |
| | 1877 | 57 | 9 | | | |
| | 1878 | 60 | 8 | | | |
| | 1879 | 57 | 7 | | | |
| | 1880 | 62 | 7 | | | |
| | 1881 | 56 | 7 | | | |
| | 1882 | 57 | 6 | | | |
| | 1883 | 57 | 5 | | | |
| | 1884 | 55 | 4 | | | |
| | 1885 | 58 | 4 | | | |
| | 1886 | 55 | 5 | | | |
| | 1887 | 56 | 4 | | | |
| | 1888 | 57 | 3 | | | |
| | 1889 | 52 | 3 | | | |
| | 1890 | 52 | 3 | | | |
| | 1891 | 51 | 3 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Perth | 1874 | 145 | 33 | | | |
| | 1875 | 135 | 25 | | | |
| | 1876 | 101 | 13 | 3 | | |
| | 1877 | 105 | 17 | | | |
| | 1878 | 105 | 17 | | | |
| | 1879 | 110 | 18 | | | |
| | 1880 | 110 | 19 | | | |
| | 1881 | 106 | 19 | | | |
| | 1882 | 110 | 19 | | | |
| | 1883 | 109 | 17 | | | |
| | 1884 | 102 | 14 | | | |
| | 1885 | 93 | 14 | | | |
| | 1886 | 95 | 12 | | | |
| | 1887 | 95 | 13 | | | |
| | 1888 | 96 | 10 | | | |
| Not including Stratford | 1889 | 74 | 5 | | | |
| | 1890 | 72 | 5 | | | |
| | 1891 | 69 | 4 | | | |
| Peterborough | 1874 | 98 | 16 | | | |
| | 1875 | 72 | 16 | | | |
| | 1876 | 40 | 11 | 2 | 1 | |
| | 1877 | 43 | 11 | .... .... | 1 | |
| | 1878 | 35 | 11 | ..... | 1 | Dunkin Act in force in part of West Riding for 10 months. |
| | 1879 | 42 | 13 | .... ..... | 1 | |
| | 1880 | 46 | 12 | .... ... | 1 | |
| | 1881 | 46 | 14 | ..... .. | 1 | |
| | 1882 | 50 | 15 | ..... | 1 | |
| | 1883 | 50 | 14 | ..... | 1 | |
| | 1884 | 46 | 13 | .... .... | 1 | |
| | 1885 | 43 | 12 | | | |
| | 1886 | ..... ..... ... | | ..... | ..... | Can. Temp. Act in force. |
| | 1887 | ..... .... ..... | | .... .... | ... ..... | do |
| | 1888 | .... ..... .... ..... | | ..... | ..... | do |
| | 1889 | 43 | 10 | ..... | 1 | |
| | 1890 | 41 | 11 | | | |
| | 1891 | 45 | 9 | | | |
| Prescott and Russell | 1874 | 63 | 10 | | | |
| | 1875 | 58 | 11 | 1 | | |
| | 1876 | 52 | | | | |
| | 1877 | 46 | 5 | | | |
| | 1878 | 49 | 5 | | | |
| | 1879 | 41 | 5 | | | |
| | 1880 | 42 | 4 | | | |
| | 1881 | 50 | 5 | | | |
| | 1882 | 53 | 6 | | | |
| | 1883 | 62 | 7 | | | |
| | 1884 | 65 | 4 | | | |
| | 1885 | 65 | 3 | | | |
| | 1886 | 68 | 1 | | | |
| | 1887 | 78 | 1 | | | |
| | 1888 | 76 | 1 | | | |
| | 1889 | 76 | 1 | | | |
| | 1890 | 78 | 2 | | | |
| | 1891 | 75 | 3 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Prince Edward | 1874 | 22 | 3 | | 3 | |
| | 1875 | 23 | 3 | | 1 | |
| | 1876 | | | 1 | 1 | Dunkin Act in force. |
| | 1877 | | | | | do |
| | 1878 | | | | | do |
| | 1879 | 23 | 2 | | 1 | |
| | 1880 | 24 | 2 | | 3 | |
| | 1881 | 24 | 3 | | 1 | |
| | 1882 | 22 | 3 | | 2 | |
| | 1883 | 23 | 4 | | 2 | |
| | 1884 | 21 | 1 | | 2 | |
| | 1885 | 23 | 2 | | 2 | |
| | 1886 | 24 | 2 | | | |
| | 1887 | 21 | 2 | | 2 | |
| | 1888 | 18 | 2 | | 2 | |
| | 1889 | 16 | 2 | | 2 | |
| | 1890 | 18 | 2 | | | |
| | 1891 | 18 | 2 | | | |
| Renfrew | 1874 | 100 | 35 | | 1 | |
| | 1875 | 102 | 30 | 1 | 1 | |
| | 1876 | 51 | 20 | | 1 | |
| | 1877 | 42 | 17 | | | |
| | 1878 | 31 | 15 | | | |
| | 1879 | 36 | 16 | | | |
| | 1880 | 42 | 21 | | | |
| | 1881 | 47 | 17 | | | |
| | 1882 | 48 | 23 | | | |
| | 1883 | 63 | 30 | | | |
| | 1884 | 44 | 20 | | | |
| | 1885 | | | | | Can. Temp. Act in force. |
| | 1886 | | | | | do |
| | 1887 | | | | | do |
| | 1888 | 55 | 12 | | | |
| | 1889 | 55 | 16 | | | |
| | 1890 | 56 | 16 | | | |
| | 1891 | 50 | 13 | | | |
| Simcoe | 1874 | 223 | 42 | | | |
| | 1875 | 196 | 35 | 2 | 2 | |
| | 1876 | 135 | 24 | 2 | 2 | |
| | 1877 | 137 | 24 | 1 | 2 | |
| | 1878 | 149 | 21 | 1 | 1 | |
| | 1879 | 142 | 20 | 1 | 1 | |
| | 1880 | 155 | 23 | 1 | 1 | |
| | 1881 | 144 | 23 | 1 | 1 | Mono and Mulmur attached to new County of Dufferin. |
| | 1882 | 146 | 23 | 1 | | |
| | 1883 | 147 | 26 | | | |
| | 1885 | 138 | 24 | | | |
| | 1885 | | | | | Can. Temp. Act in force. |
| | 1886 | | | | | do |
| | 1887 | | | | | do |
| | 1888 | 121 | 17 | | | |
| | 1889 | 124 | 18 | | | |
| | 1890 | 123 | 17 | | | |
| | 1891 | 113 | 15 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses | Remarks. |
|---|---|---|---|---|---|---|
| Stormont, Dundas and Glengarry | 1874 | 122 | 31 | | | |
| | 1875 | 80 | 28 | | | |
| | 1876 | 82 | 22 | | | |
| | 1877 | 87 | 17 | | | |
| | 1878 | 94 | 17 | | | |
| | 1879 | 91 | 16 | | | |
| | 1880 | 91 | 18 | | | |
| | 1881 | 96 | 18 | | | |
| | 1882 | 95 | 18 | | | |
| | 1883 | 89 | 17 | | | |
| | 1884 | 92 | 15 | | | |
| | 1885 | ..... | ..... | ..... | ..... | Can. Temp. Act in force |
| | 1886 | ..... | ..... | ..... | ..... | do |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | 105 | 8 | | | |
| | 1889 | 111 | 10 | | | |
| | 1890 | 103 | 8 | | | |
| | 1891 | 96 | 10 | | | |
| Victoria | 1874 | 78 | 13 | 1 | | |
| | 1875 | 70 | 9 | ..... | 1 | |
| | 1876 | 55 | 5 | 1 | ..... | |
| | 1877 | 56 | 5 | ..... | ..... | |
| | 1878 | 56 | 6 | ..... | ..... | |
| | 1879 | 60 | 6 | ..... | ..... | |
| | 1880 | 59 | 5 | ..... | ..... | Including Haliburton. |
| | 1881 | 62 | 4 | ..... | ..... | |
| | 1882 | 62 | 3 | ..... | 1 | |
| | 1883 | 62 | 3 | ..... | 2 | |
| | 1884 | 58 | 3 | ..... | ..... | |
| | 1885 | 54 | 3 | ..... | ..... | |
| | 1886 | ..... | ..... | ..... | ..... | Can. Temp. Act in force. |
| | 1887 | ..... | ..... | ..... | ..... | do |
| | 1888 | ..... | ..... | ..... | ..... | do |
| | 1889 | 46 | 2 | | | |
| | 1890 | 44 | 2 | | | |
| | 1891 | 47 | 2 | | | |
| Waterloo | 1874 | 135 | 21 | | | |
| | 1875 | 136 | 20 | 3 | | |
| | 1876 | 86 | 19 | 13 | | |
| | 1877 | 84 | 17 | 10 | | |
| | 1878 | 87 | 17 | | | |
| | 1879 | 89 | 15 | | | |
| | 1880 | 87 | 15 | | | |
| | 1881 | 88 | 16 | | | |
| | 1882 | 90 | 17 | | | |
| | 1883 | 91 | 15 | ..... | 1 | |
| | 1884 | 92 | 14 | | | |
| | 1885 | 90 | 13 | | | |
| | 1886 | 87 | 12 | | | |
| | 1887 | 87 | 12 | | | |
| | 1888 | 90 | 9 | 1 | | |
| | 1889 | 91 | 10 | 1 | | |
| | 1890 | 92 | 10 | 1 | | |
| | 1891 | 91 | 10 | 1 | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Welland | 1874 | 145 | 28 | 3 | | |
| | 1875 | 151 | 23 | | | |
| | 1876 | 73 | 19 | | | |
| | 1877 | 80 | 19 | | | |
| | 1878 | 89 | 21 | | | |
| | 1879 | 92 | 25 | | | |
| | 1880 | 87 | 29 | | | |
| | 1881 | 81 | 19 | | | |
| | 1882 | 78 | 20 | | | |
| | 1883 | 79 | 18 | | | |
| | 1884 | 82 | 14 | | | |
| | 1885 | 78 | 15 | | | |
| | 1886 | 82 | 12 | | | |
| | 1887 | 78 | 10 | | | |
| | 1888 | 70 | 8 | | | |
| | 1889 | 73 | 9 | | | |
| | 1890 | 73 | 9 | | | |
| | 1891 | 70 | 9 | | | |
| Wellington | 1874 | 183 | 52 | | | |
| | 1875 | 182 | 41 | 3 | | |
| | 1876 | 138 | 29 | 3 | | |
| | 1877 | 130 | 28 | 3 | | |
| | 1878 | 134 | 29 | | | |
| | 1879 | 138 | 29 | | | |
| | 1880 | 145 | 30 | | | |
| | 1881 | 134 | 24 | | | Orangeville, Amaranth and East Garafraxa, attached to new County of Dufferin. |
| | 1882 | 128 | 26 | | | |
| | 1883 | 126 | 22 | | | |
| | 1884 | 116 | 19 | | | |
| | 1885 | 104 | 13 | | | |
| | 1886 | | | | | Can. Temp. Act in force. |
| | 1887 | | | | | do |
| | 1888 | | | | | do |
| Not including Guelph | 1889 | 78 | 5 | | | |
| do | 1890 | 77 | 4 | | | |
| do | 1891 | 80 | 3 | | | |
| Wentworth (not including Hamilton) | 1874 | 110 | 32 | 4 | | |
| | 1875 | 107 | 19 | 2 | | |
| | 1876 | 61 | 11 | 2 | | |
| | 1877 | 56 | 10 | | | |
| | 1878 | 47 | 6 | | | |
| | 1879 | 63 | 6 | | | |
| | 1880 | 56 | 6 | | | |
| | 1881 | 55 | 6 | | | |
| | 1882 | 51 | 6 | | | |
| | 1883 | 52 | 6 | | | |
| | 1884 | 54 | 6 | | | |
| | 1885 | 54 | 6 | | | |
| | 1886 | 49 | 6 | | | |
| | 1887 | 51 | 5 | | | |
| | 1888 | 47 | 4 | | | |
| | 1889 | 49 | 3 | | | |
| | 1890 | 49 | 4 | | | |
| | 1891 | 49 | 3 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| County. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| York (not including Toronto) | 1874 | 148 | 39 | | | |
| | 1875 | 164 | 35 | | | |
| | 1876 | 108 | 16 | 1 | | |
| | 1877 | 97 | 15 | | | |
| | 1878 | ... | ... | ..... | ..... | Dunkin Act in force. |
| | 1879 | 114 | 15 | ..... | ..... | do one month (May). |
| | 1880 | 117 | 16 | | | |
| | 1881 | 128 | 21 | | | |
| | 1882 | 131 | 24 | | | |
| | 1883 | 132 | 23 | | | |
| | 1884 | 121 | 13 | | | |
| | 1885 | 114 | 12 | | | |
| | 1886 | 116 | 10 | | | |
| | 1887 | 109 | 7 | | | |
| | 1888 | 107 | 2 | | | |
| | 1889 | 112 | 1 | | | |
| | 1890 | 108 | 2 | | | |
| | 1891 | 105 | 3 | | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| City. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| Toronto | 1874 | 309 | 184 | 21 | 16 | |
| | 1875 | 299 | 128 | 28 | 9 | |
| | 1876 | 216 | 100 | 39 | 9 | |
| | 1877 | 182 | 100 | 26 | 6 | |
| | 1878 | 181 | 92 | 20 | 10 | |
| | 1879 | 195 | 98 | 19 | 6 | |
| | 1880 | 204 | 94 | 18 | 4 | |
| | 1881 | 210 | 95 | 15 | 6 | |
| | 1882 | 216 | 100 | 14 | 7 | |
| | 1883 | 197 | 98 | 14 | 5 | |
| | 1884 | 217 | 88 | 13 | 3 | |
| | 1885 | 227 | 71 | 14* | 2* | |
| | 1886 | 224 | 66 | 13 | 3 | |
| | 1887 | 150 | 50 | 13 | 1 | |
| | 1888 | 150 | 50 | 12 | 3 | |
| | 1889 | 152 | 50 | 14 | 3 | |
| | 1890 | 150 | 50 | 11 | | |
| | 1891 | 150 | 50 | 11 | | |
| Hamilton | 1874 | 127 | 93 | ..... | 3 | |
| | 1875 | 110 | 72 | ..... | | |
| | 1876 | 68 | 61 | 11 | 1 | |
| | 1877 | 68 | 55 | 7 | 2 | |
| | 1878 | 68 | 64 | 7 | 2 | |
| | 1879 | 68 | 61 | 8 | | |
| | 1880 | 74 | 57 | 7 | | |
| | 1881 | 89 | 55 | 7 | | |
| | 1882 | 98 | 58 | 8 | | |
| | 1883 | 105 | 54 | 8 | | |
| | 1884 | 97 | 47 | 4 | | |
| | 1885 | 110 | 48 | 3 | | |
| | 1886 | 112 | 45 | 5 | | |
| | 1887 | 107 | 40 | 4 | | |
| | 1888 | 111 | 37 | 2 | | |
| | 1889 | 91 | 38 | 3 | | |
| | 1890 | 92 | 38 | 3 | | |
| | 1891 | 91 | 37 | 3 | | |
| Ottawa | 1874 | 120 | 77 | 6 | | |
| | 1875 | 114 | 148 | 7 | | |
| | 1876 | 75 | 77 | 7 | 1 | |
| | 1877 | 75 | 80 | 2 | 1 | |
| | 1878 | 73 | 77 | ..... | 1 | |
| | 1879 | 73 | 71 | ..... | 1 | |
| | 1880 | 75 | 72 | ..... | 1 | |
| | 1881 | 75 | 77 | ..... | 1 | |
| | 1882 | 75 | 76 | ..... | 1 | |
| | 1883 | 75 | 84 | ..... | 1 | |
| | 1884 | 75 | 78 | ..... | 1 | |
| | 1885 | 75 | 77 | ..... | | |
| | 1886 | 75 | 69 | 1 | | |
| | 1887 | 75 | 68 | 1 | 1 B. & W. | |
| | 1888 | 76 | 54 | 2 | 1 | |
| | 1889 | 80 | 56 | 1 | 1 B. & W. | |
| | 1890 | 88 | 59 | 2 | | |
| | 1891 | 87 | 59 | 1 | | |

*Dominion issues.

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| City. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| London | 1874 | 75 | 40 | 3 | | |
| | 1875 | 75 | 74 | 2 | | |
| | 1876 | 57 | 34 | 5 | | |
| | 1877 | 58 | 35 | 1 | | |
| | 1878 | 58 | 37 | 1 | | |
| | 1879 | 57 | 36 | 2 | | |
| | 1880 | 45 | 27 | 2 | | |
| | 1881 | 45 | 24 | 2 | | |
| | 1882 | 47 | 26 | 3 | | |
| | 1883 | 47 | 24 | 2 | | |
| | 1884 | 48 | 22 | 2 | | |
| | 1885 | 49 | 22 | 1 | | |
| | 1886 | 61 | 21 | 2 | | |
| | 1887 | 54 | 19 | 2 | | |
| | 1888 | 57 | 14 | 1 | | |
| | 1889 | 58 | 13 | 1 | | |
| | 1890 | 56 | 12 | 1 | | |
| | 1891 | 41 | 10 | 1 | | |
| Kingston | 1874 | 97 | 25 | ..... | 1 | |
| | 1875 | 75 | 20 | 3 | 1 | |
| | 1876 | 53 | 23 | 6 | 5 | |
| | 1877 | 61 | 21 | 3 | 8 | |
| | 1878 | 61 | 21 | 3 | 8 | |
| | 1879 | 62 | 20 | 3 | 8 | |
| | 1880 | 62 | 20 | 3 | 8 | |
| | 1881 | 64 | 20 | 2 | 11 | |
| | 1882 | 53 | 22 | 2 | 9 | |
| | 1883 | 53 | 23 | 3 | 6 | |
| | 1884 | 39 | 20 | 2 | 6 | |
| | 1885 | 38 | 22 | 1 | 4 | |
| | 1886 | 41 | 22 | 1 | 6 | |
| | 1887 | 43 | 20 | 1 | 6 | |
| | 1888 | 44 | 15 | 1 | 7 | |
| | 1889 | 40 | 15 | 1 | 7 | |
| | 1890 | 38 | 15 | 1 | | |
| | 1891 | 39 | 15 | 1 | | |
| St. Catharines | 1886 | 29 | 7 | | | |
| | 1887 | 23 | 7 | | | |
| | 1888 | 26 | 7 | | | |
| | 1889 | 26 | 6 | | | |
| | 1890 | 26 | 5 | | | |
| | 1891 | 26 | 4 | | | |
| Brantford | 1886 | 19 | 5 | 3 | | |
| | 1887 | 18 | 5 | 3 | | |
| | 1888 | 18 | 5 | 3 | | |
| | 1889 | 18 | 5 | 3 | | |
| | 1890 | 18 | 5 | 2 | | |
| | 1891 | 18 | 5 | 1 | | |

SCHEDULE B.—Comparative Statement, etc.—*Continued.*

| City. | Year. | Tavern Licenses. | Shop Licenses. | Wholesale Licenses. | Vessel Licenses. | Remarks. |
|---|---|---|---|---|---|---|
| St. Thomas | 1889 | 20 | 6 | | | |
| | 1890 | 18 | 4 | | | |
| | 1891 | 18 | 4 | | | |
| Stratford | 1889 | 21 | 4 | | | |
| | 1890 | 21 | 4 | | | |
| | 1891 | 21 | 4 | | | |
| Guelph | 1889 | 16 | 2 | | | |
| | 1890 | 16 | 2 | | | |
| | 1891 | 16 | 2 | | | |
| Belleville | 1889 | 25 | 3 | 2 | | |
| | 1890 | 25 | 3 | 2 | | |
| | 1891 | 25 | 3 | 2 | | |
| Windsor | 1891 | 22 | 4 | | | |

SCHEDULE B—*Concluded.*

RECAPITULATION, showing the total number of Provincial licenses issued in the several Counties in the Province, including the cities, during the license years 1874 5-6-7-8 9-80-1-2-3-4 5-6-7-8 9-90-1.

| Years. | Tavern. | Shop. | Wholesale. | Vessel. | Total. |
|---|---|---|---|---|---|
| 1874 | 4793 | 1307 | 52 | 33 | 6185 |
| 1875 | 4459 | 1257 | 78 | 24 | 5818 |
| 1876 | 2977 | 787 | 147 | 27 | 3938 |
| 1877 | 2845 | 739 | 65 | 27 | 3676 |
| 1878 | 2910 | 724 | 52 | 29 | 3715 |
| 1879 | 3199 | 757 | 42 | 22 | 4020 |
| 1880 | 3227 | 760 | 40 | 22 | 4049 |
| 1881 | 3311 | 764 | 34 | 24 | 4133 |
| 1882 | 3317 | 787 | 35 | 24 | 4163 |
| 1883 | 3363 | 781 | 36 | 21 | 4201 |
| 1884 | 3253 | 675 | 28 | 14 | 3970 |
| 1885 | 2574 | 525 | 24 | 9 | 3132 |
| 1886 | 1567 | 367 | 28 | 12 | 1974 |
| 1887 | 1496 | 325 | 28 | 13 | 1862 |
| 1888 | 2066 | 336 | 26 | 17 | 2445 |
| 1889 | 3073 | 445 | 27 | 15 | 3560 |
| 1890 | 3071 | 428 | 24 | .... | 3523 |
| 1891 | 2990 | 403 | 21 | .... | 3414 |

The Six Months' Licenses and the Licenses *extended* do not appear in the above Schedule or recapitulation, and as a consequence the total number of Licenses issued, according to the Statement, does not correspond with the number as shown in Schedules A and C. Beer and Wine Licenses are included with the ordinary licenses under the heads of Tavern Licenses and Vessel Licenses respectively. An *extended* License is good for a period not exceeding three months. It is not in the nature of a new license, but simply a permission, granted by the Board of Commissioners, to the holder of license expiring in April, to continue his business under the old license for the specified period, that he may be enabled to dispose of his stock on hand and quit the business without loss. Six Months' Licenses run from the first day of May to the thirty first day of October, and are not valid after the latter date. They are granted in localities which are largely resorted to in summer by visitors, where the Board of Commissioners are of opinion that increased tavern accommodation for the summer months is necessary.

## SCHEDULE C.

COMPARATIVE STATEMENT BY MUNICIPALITIES, showing the number of Provincial Licenses, whether Ordinary or Beer and Wine, issued, and the number extended, transferred or removed, the gross sums deposited to the Credit of the License Fund Accounts therefor, and for Fines, the amount imposed by Municipal by-laws for licenses in excess of statutory duties for 1891-2, and the revenue paid over to the Municipal Treasurers during the License years 1889-90, 1890-91, and 1891-2, respectively.

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Addington | Newburg | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Camden | 12 | 11 | 11 | | | | | | | | | | | | | | | | | | |
| | Sheffield | 8 | 8 | 8 | | | | | | | | | | | | | | | | | | |
| | Kaladar and Anglesea | 3 | 2 | 1 | | | | | | | | | | | | | | | | | | |
| | Barrie | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Kennebec | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Olden | 1 | 1 | | | | | | | | | | | | | | | | | | | |
| | Oso | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Hinchinbrooke | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | |
| | Palmerston and N. & S. Canonto | 2 | 2 | 1 | | | | | | | | | | | | | | | | | | |
| | Clarendon and Miller | 1 | | | | | | | | | | | | | | | | | | | | |
| | Denbigh | | | | | | | | | | | | | | | | | | | | | |
| Algoma | Sault Ste. Marie | 7 | 7 | 7 | | | | 3 | 3 | | | | | | | | | | | | 2 | |
| | St. Joseph | 3 | 4 | 3 | | | | | | | | | | | | | | | | | 1 | |
| | Hilton | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Thessalon | 3 | 4 | 4 | | | | | | | | | | | | | | | | | | |
| | Balfour | | | 1 | | | | | | | | | | | | | | | | | | |
| | Plummer Additional | | | 2 | | | | | | 1 | | | | | | | | | | | | |
| | Unorganized Territory | 13 | 15 | 12 | | | | 2 | 2 | 1 | | | | | | | | | | | | |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses Transfers, Removals and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by Municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Addington | Newburg | 1 | .... | 2 | .... | .... | .... | 3 | 2 | 4 | 245 00 | 300 00 | 265 00 | 51 00 | 84 64 | 65 78 | ..... | |
| | Camden | .... | 4 | 3 | .... | .... | .... | 12 | 15 | 14 | 1,100 00 | 1,085 00 | 1,045 00 | 301 88 | 355 08 | 324 28 | ..... | |
| | Sheffield | 2 | 1 | 2 | .... | .... | .... | 10 | 9 | 10 | 730 00 | 725 00 | 740 00 | 199 90 | 228 09 | 226 78 | ..... | |
| | Kaladar and Anglesea | .... | .... | .... | .... | .... | .... | 3 | 2 | 1 | 270 00 | 195 00 | 90 00 | 73 44 | 63 48 | 27 20 | ..... | |
| | Barrie | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 130 00 | 24 48 | 28 22 | 45 36 | ..... | |
| | Kennebec | 1 | .... | .... | .... | .... | .... | 2 | 1 | 1 | 95 00 | 90 00 | 100 00 | 26 50 | 28 22 | 31 76 | ..... .... | |
| | Olden | 1 | .... | .... | .... | .... | .... | 2 | 1 | .... | 95 00 | 90 00 | ..... | 26 52 | 28 20 | ..... | ..... ..... | |
| | Oso | .... | .... | .... | .... | .... | .... | 2 | 1 | 1 | 310 00 | 155 00 | 175 00 | 178 96 | 93 20 | 84 90 | 35 00 | |
| | Hinchinbrooke | 1 | .... | 2 | .... | .... | .... | 5 | 4 | 6 | 365 00 | 360 00 | 390 00 | 99 94 | 112 88 | 122 46 | .... .... | |
| | Palmerston and N. & S. Canonto | .... | 1 | .... | .... | 1 | 1 | 2 | 4 | 2 | 220 00 | 190 00 | 95 00 | 88 94 | 61 13 | 29 48 | ..... | |
| | Clarendon and Miller | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 90 00 | ..... | ..... | 24 48 | ..... | ..... | ..... | |
| | Denbigh | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | 50 00 | ..... | ..... | 23 52 | ..... | ..... | |
| Algoma | Sault Ste. Marie | 2 | 1 | .... | .... | .... | .... | 12 | 11 | 7 | 2,030 00 | 2,055 00 | 1,400 00 | 927 20 | 945 05 | 618 29 | 350 00 | |
| | St. Joseph | 1 | 1 | .... | .... | .... | .... | 4 | 5 | 3 | 295 00 | 365 00 | 270 00 | 105 50 | 127 52 | 86 24 | ..... | |
| | Hilton | .... | .... | .... | .... | .... | .... | 2 | 1 | 1 | 180 00 | 90 00 | 90 00 | 61 76 | 31 22 | 28 74 | ..... | |
| | Thessalon | 2 | .... | 1 | .... | .... | .... | 5 | 4 | 5 | 310 00 | 620 00 | 605 00 | 127 78 | 375 34 | 357 38 | 240 00 | |
| | Balfour | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 | ..... | ..... | 90 00 | ..... | ..... | 28 76 | ..... | |
| | Plummer Additional | .... | .... | .... | .... | .... | .... | ..... | ..... | 3 | ..... | ..... | 330 00 | ..... | ..... | 114 98 | ..... | |
| | Unorganized Territory | .... | 2 | 3 | .... | .... | .... | 15 | 19 | 16 | 1,458 25 | 1,630 00 | 1,245 00 | ..... | ..... | ..... | ..... | Payable to Province, less proportion of expenses. |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. | | | Tavern. Beer and Wine. | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| North Brant | South Dumfries | 4 | 4 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Brantford, Township | 2 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Onondaga | 3 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Paris | 8 | 8 | 8 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| South Brant | Brantford, Township | 3 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Burford | 4 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Oakland | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 4 | .... | .... | .... | .... | .... | .... |
| Brantford City | | 18 | 18 | 18 | .... | .... | .... | 5 | 5 | 5 | 3 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Brockville and Leeds. | Brockville | 11 | 11 | 11 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Gananoque | 6 | 6 | 6 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Newboro' | 2 | 2 | 2 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Bastard and Burgess | 3 | 4 | 3 | .... | .... | .... | 3 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| | North Crosby | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Front of Leeds and Lansdowne | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Front of Yonge and Escott | 2 | 1 | 1 | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Rear of Yonge and Escott | 3 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 2 |
| | Rear of Leeds and Lansdowne | 4 | 4 | 4 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Elizabethtown | 2 | 1 | 2 | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1B&W. | 1B&W. | 1B&W. |
| | South Crosby | 2 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 |
| | Athens | .... | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. | | | | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by Municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1891-2. | |
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| North Brant | South Dumfries | .... | 1 | 1 | .... | .... | .... | 4 | 5 | 5 | 400 00 | 425 00 | 330 00 | 120 00 | 132 51 | 87 14 | 32 50 | |
| | Brantford, Township | 1 | .... | .... | .... | .... | .... | 3 | 3 | 2 | 225 00 | 270 00 | 200 00 | 60 00 | 62 83 | 38 24 | ..... ... | |
| | Onondaga | .... | .... | .... | .... | .... | .... | 3 | 2 | 2 | 280 00 | 180 00 | 270 00 | 60 00 | 41 88 | 57 38 | ..... ... | |
| | Paris | 1 | 1 | 5 | .... | .... | .... | 11 | 11 | 15 | 2,045 00 | 2,125 00 | 2,047 00 | 766 67 | 822 86 | 731 44 | 500 00 | |
| South Brant | Brantford, Township | .... | .... | 1 | .... | .... | .... | 3 | 4 | 5 | 320 00 | 360 00 | 365 00 | 30 00 | 11 16 | ... .... | ..... . . | |
| | Burford | 1 | 1 | 1 | .... | .... | .... | 5 | 4 | 4 | 385 60 | 275 00 | 275 00 | ..... | 14 46 | ..... | .... ..... | |
| | Oakland | 2 | 2 | 1 | .... | .... | .... | 4 | 4 | 5 | 190 00 | 190 00 | 95 00 | ..... | 7 84 | ..... | ..... | |
| Brantford City | | 6 | 6 | 7 | .... | .... | 1 | 32 | 32 | 31 | 7,380 00 | 7,135 00 | 6,889 00 | 3,380 86 | 3,229 35 | 3,083,33 | 1,940 00 | |
| Brockville and Leeds. | Brockville | 1 | 1 | .... | .... | .... | .... | 14 | 14 | 13 | 7,215 00 | 7,255 00 | 7,235 00 | 5,818 38 | 3,968 07 | 3,964 62 | 5,260 00 | |
| | Gananoque | .... | .... | 1 | .... | .... | .... | 8 | 8 | 9 | 2,080 00 | 2,160 00 | 2,165 00 | 1,376 48 | 1,289 18 | 1,295 90 | 960 00 | |
| | Newboro' | .... | .... | .... | .... | .... | .... | 4 | 2 | 2 | 560 00 | 390 00 | 320 00 | 252 20 | 177 72 | 142 50 | 80 00 | |
| | Bastard and Burgess | .... | .... | .... | .... | .... | .... | 7 | 6 | 5 | 820 00 | 640 00 | 520 00 | 396 82 | 314 74 | 255 60 | 115 00 | |
| | North Crosby | .... | .... | 2 | .... | .... | .... | 3 | 3 | 5 | 390 00 | 300 00 | 310 00 | 216 18 | 122 58 | 128 95 | 30 00 | |
| | Front of Leeds and Lansdowne | .... | ... | .. | .... | .... | .... | 2 | 2 | 1 | 180 00 | 180 00 | 140 00 | 64 12 | 61 72 | 57 28 | .... ..... | |
| | Front of Yonge and Escott | .... | .... | 1 | .... | .... | .... | 2 | 2 | 3 | 180 00 | 137 50 | 167 50 | 64 12 | 51 44 | 67 70 | ..... .. | |
| | Rear of Yonge and Escott | .... | .... | .... | .... | .... | .... | 4 | 2 | 2 | 350 00 | 150 00 | 154 00 | 147 20 | 61 30 | 69 36 | 10 00 | |
| | Rear of Leeds and Lansdowne | .... | .... | .... | .... | .... | .... | 6 | 6 | 6 | 540 00 | 540 00 | 560 00 | 192 36 | 185 16 | 197 88 | ..... | |
| | Elizabethtown | .... | 1 | .... | .... | .... | .... | 4 | 3 | 4 | 406 25 | 173 75 | 266 25 | 258 16 | 76 86 | 115 94 | ..... | |
| | South Crosby | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 307 55 | 285 00 | 135 00 | 132 29 | 123 44 | 46 86 | .... ..... | |
| | Athens | .... | .... | .... | .... | .... | .... | .... | 2 | 2 | ..... | 290 00 | 315 00 | ..... | 87 44 | 101 54 | ..... | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1890-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Centre Bruce | Paisley | 5 | 5 | 5 | .... | .... | .... | 1 | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Kincardine, Town | 7 | 6 | 6 | .... | .... | .... | 1 | 1 | 1 | ... | ..... | ..... | ..... | ..... | ..... | ..... | ... | ..... | ..... | ... | ..... |
| | Chesley | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Greenock | 7 | 7 | 7 | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Huron | 4 | 4 | 3 | .... | .... | .... | 1 | 1 | 1 | ... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Kincardine, Township | 2 | 1 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Elderslie | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| North Bruce | Tiverton | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Port Elgin | 6 | 6 | 6 | .... | .... | .... | .... | .... | .... | ... | ..... | ..... | ..... | ..... | ..... | ..... | ... | ..... | ..... | ..... | ..... |
| | Southampton | 3 | 2 | 3 | .... | .... | .... | ... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Tara | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Wiarton | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Bruce | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Saugeen | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Arran | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Amabel | 2 | 2 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Eastnor | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Albemarle | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Lindsay & St. Edmunds | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| South Bruce | Lucknow | 5 | 4 | 4 | .... | .... | .... | 1 | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Teeswater | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Walkerton | 8 | 8 | 8 | .... | .... | .... | 2 | 2 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | .... | ..... | ..... | ..... | ..... | ..... |
| | Culross | 2 | 2 | 3 | .... | .... | .... | ... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Carrick | 11 | 11 | 11 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Brant | 9 | 9 | 8 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Kinloss | 4 | 4 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by Municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Centre Bruce | Paisley | .... | .... | 1 | .... | .... | .... | 6 | 6 | 7 | 1,300 00 | 1,200 00 | 1,215 00 | 699 28 | 651 32 | 644 10 | 480 00 | |
| | Kincardine, Town | 4 | .... | .... | .... | .... | .... | 12 | 7 | 7 | 1,712 00 | 1,450 00 | 1,415 00 | 758 48 | 640 34 | 601 62 | 350 00 | |
| | Chesley | .... | .... | .... | .... | .... | .... | 3 | 5 | 3 | 525 00 | 535 00 | 625 00 | 250 82 | 255 44 | 287 53 | 165 00 | |
| | Greenock | 1 | .... | 1 | .... | .... | .... | 8 | 9 | 8 | 635 00 | 680 00 | 675 00 | 202 59 | 223 70 | 203 47 | .... | |
| | Huron | 1 | .... | .... | .... | .... | .... | 6 | 5 | 4 | 780 00 | 650 00 | 560 00 | 457 30 | 316 60 | 282 53 | 160 00 | |
| | Kincardine, Township | .... | .... | .... | .... | 1 | .... | 2 | 2 | 1 | 300 00 | 130 00 | 110 00 | 177 20 | 65 94 | 46 25 | 20 00 | |
| | Elderslie | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | |
| North Bruce | Tiverton | .... | 1 | 1 | .... | .... | .... | 2 | 3 | 3 | 300 00 | 325 00 | 325 00 | 108 00 | 121 16 | 126 00 | 60 00 | |
| | Port Elgin | 6 | 5 | 7 | .... | .... | 2 | 12 | 11 | 15 | 1,490 00 | 1,495 00 | 1,581 00 | 868 00 | 894 98 | 918 04 | 720 00 | |
| | Southampton | .... | .... | 1 | .... | .... | .... | 3 | 2 | 4 | 600 00 | 410 00 | 605 00 | 312 00 | 214 82 | 324 20 | 240 00 | |
| | Tara | 1 | .... | .... | .... | .... | .... | 4 | 3 | 3 | 605 00 | 600 00 | 600 00 | 312 00 | 315 92 | 321 92 | 240 00 | |
| | Wiarton | .... | 2 | 4 | .... | .... | .... | 5 | 7 | 9 | 1,020 00 | 1,030 00 | 1,020 00 | 528 00 | 539 14 | 545 66 | 400 00 | |
| | Bruce | 2 | .... | 1 | .... | .... | .... | 4 | 2 | 3 | 260 00 | 250 00 | 225 00 | 120 00 | 120 60 | 96 90 | 40 00 | |
| | Saugeen | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 24 00 | 25 30 | 27 31 | .... | |
| | Arran | 2 | 2 | 3 | .... | .... | .... | 6 | 6 | 7 | 495 00 | 450 00 | 455 00 | 178 00 | 185 44 | 196 06 | 80 00 | |
| | Amabel | .... | 1 | 2 | .... | .... | .... | 2 | 3 | 5 | 200 00 | 205 00 | 316 00 | 68 00 | 72 72 | 119 22 | 30 00 | |
| | Eastnor | 1 | 2 | 2 | .... | .... | .... | 4 | 5 | 5 | 515 00 | 430 00 | 410 00 | 312 00 | 230 12 | 194 68 | 90 00 | |
| | Albemarle | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | |
| | Lindsay & St. Edmunds | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | |
| South Bruce | Lucknow | 1 | .... | 1 | .... | .... | .... | 7 | 5 | 6 | 995 00 | 770 00 | 785 00 | 418 90 | 306 14 | 321 66 | 150 00 | |
| | Teeswater | 3 | .... | 1 | .... | .... | .... | 7 | 4 | 5 | 835 00 | 910 00 | 725 00 | 464 37 | 490 77 | 365 54 | 240 00 | |
| | Walkerton | 4 | .... | 5 | .... | 1 | .... | 14 | 11 | 15 | 2,680 00 | 2,443 00 | 2,465 00 | 1,590 54 | 1,316 44 | 1,348 11 | 910 00 | |
| | Culross | 1 | 3 | .... | .... | .... | .... | 3 | 5 | 3 | 185 00 | 225 00 | 270 00 | 65 63 | 80 50 | 92 24 | .... | |
| | Carrick | 3 | 2 | 3 | .... | .... | .... | 14 | 13 | 14 | 1,033 00 | 1,060 00 | 1,025 00 | 369 12 | 356 16 | 356 14 | .... | |
| | Brant | 4 | 1 | 1 | .... | .... | .... | 13 | 10 | 9 | 830 00 | 815 00 | 745 00 | 294 02 | 265 90 | 258 76 | .... | |
| | Kinloss | 3 | .... | .... | .... | .... | .... | 7 | 4 | 2 | 375 00 | 360 00 | 180 00 | 133 88 | 117 10 | 61 48 | .... | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. 1889-90. | Ordinary. 1890-1. | Ordinary. 1891-2. | Beer and Wine. 1889-90. | Beer and Wine. 1890-1. | Beer and Wine. 1891-2. | Shop. 1889-90. | Shop. 1890-1. | Shop. 1891-2. | Wholesale. 1889-90. | Wholesale. 1890-1. | Wholesale. 1891-2. | Extended Tavern. 1889-90. | Extended Tavern. 1890-1. | Extended Tavern. 1891-2. | Extended Shop. 1889-90. | Extended Shop. 1890-1. | Extended Shop. 1891-2. | Six Months. 1889-90. | Six Months. 1890-1. | Six Months. 2891-2. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cardwell | Adjala | 8 | 7 | 6 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | 1 | 2 | .... | .... | 1 | .... | .... | .... |
| | Bradford | 3 | 3 | 3 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... |
| | Tecumseth | 3 | 3 | 3 | .... | .. | .. | .. | .. | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Bolton | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Albion | 6 | 5 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Innisfil | 9 | 9 | 9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | 1 | .... |
| | West Gwillimbury | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Beeton | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tottenham | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Allandale | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Carleton | Richmond | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | March | 1 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Huntley | 3 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | North Gower | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Goulburn | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Marlborough | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Fitzroy | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Nepean | 11 | 9 | 10 | .... | .. | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | East Ottawa | .... | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Cornwall | Cornwall, Town | 13 | 13 | 13 | .... | .... | .... | 3 | 2 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Cornwall, Township | 13 | 13 | 12 | 1 | 1 | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Dufferin | Orangeville | 9 | 9 | 9 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Mulmur | 4 | 4 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Mono | 3 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Melancthon | 2 | 2 | 2 | .... | .. | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Garafraxa, East | 2 | 1 | 1 | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Shelburne | 4 | 4 | 4 | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Amaranth | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | East Luther | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. | | | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1891-2. | |
| | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Cardwell | Adjala | 3 | .... | .... | .... | .... | 12 | 9 | 9 | 899 00 | 857 50 | 607 50 | 313 60 | 29 04 | 196 54 | .... | |
| | Bradford | 1 | .... | .... | 1 | .... | 5 | 4 | 5 | 635 00 | 594 00 | 490 00 | 252 09 | 229 22 | 192 07 | 95 00 | |
| | Tecumseth | .... | 1 | 1 | .... | .... | 3 | 4 | 4 | 470 00 | 435 00 | 375 00 | 279 72 | 214 59 | 184 62 | 90 00 | |
| | Bolton | .... | .... | .... | .... | .... | 3 | 4 | 3 | 510 00 | 515 00 | 510 00 | 239 74 | 240 40 | 237 31 | 150 00 | |
| | Albion | .... | 2 | 1 | .... | .... | 6 | 8 | 7 | 572 00 | 484 50 | 545 00 | 195 44 | 159 78 | 177 14 | .... | |
| | Innisfil | .... | 1 | 3 | .... | .... | 11 | 13 | 13 | 909 75 | 870 00 | 867 50 | 311 49 | 285 80 | 286 36 | .... | |
| | West Gwillimbury | .... | .... | .... | .... | .... | 2 | 2 | 1 | 180 00 | 242 00 | 90 00 | 59 82 | 88 92 | 29 12 | .... | |
| | Beeton | .... | 2 | .... | .... | .... | 5 | 3 | 3 | 460 00 | 460 00 | 460 00 | 184 74 | 182 84 | 182 18 | 90 00 | |
| | Tottenham | .... | .... | .... | .... | .... | 3 | 4 | 3 | 530 00 | 565 00 | 480 00 | 234 66 | 220 16 | 207 33 | 150 00 | |
| | Allandale | .... | .... | 1 | .... | 1 | .... | .... | 1 | .... | .... | 5 00 | .... | .... | 2 60 | .... | |
| Carleton | Richmond | .... | .... | 1 | .... | .... | 1 | 1 | 2 | 120 00 | 120 00 | 125 00 | 25 80 | 26 20 | 30 64 | .... | |
| | March | .... | .... | .... | .... | .... | 1 | 1 | 2 | 90 00 | 90 00 | 180 00 | 25 80 | 26 16 | 56 56 | .... | |
| | Huntley | .... | .... | .... | .... | 1 | 3 | 4 | 3 | 270 00 | 275 00 | 205 00 | 77 38 | 80 61 | 68 34 | .... | |
| | North Gower | .... | .... | 1 | .... | .... | 5 | 5 | 6 | 450 00 | 490 00 | 555 00 | 128 94 | 148 20 | 190 90 | .... | |
| | Goulburn | .... | .... | .... | .... | .... | 2 | 2 | 2 | 200 00 | 180 00 | 230 00 | 60 18 | 52 32 | 80 12 | .... | |
| | Marlborough | .... | 1 | .... | .... | .... | 1 | 2 | 1 | 90 00 | 95 00 | 90 00 | 25 79 | 26 32 | 28 28 | .... | |
| | Fitzroy | .... | 1 | .... | .... | .... | 2 | 3 | 3 | 180 00 | 185 00 | 185 00 | 51 58 | 51 48 | 58 94 | .... | |
| | Nepean | .... | 4 | 3 | 1 | .... | 13 | 13 | 13 | 1,105 00 | 920 00 | 955 00 | 320 22 | 270 18 | 308 74 | .... | |
| | East Ottawa | .... | .... | .... | .... | .... | .... | 2 | 2 | .... | 240 00 | 260 00 | .... | 52 38 | 65 98 | .... | |
| Cornwall | Cornwall, Town | 3 | 1 | 4 | .... | .... | 19 | 16 | 20 | 4,355 00 | 4,155 00 | 4,500 00 | 2,586 47 | 2,456 12 | 2,676 51 | 1,920 00 | |
| | Cornwall, Township | 2 | 1 | 3 | .... | .... | 17 | 16 | 16 | 1,487 50 | 1,462 50 | 1,335 00 | 606 27 | 589 98 | 537 86 | 100 00 | |
| Dufferin | Orangeville | 6 | 6 | 1 | .... | .... | 17 | 17 | 12 | 2,335 00 | 2,300 00 | 2,225 00 | 936 24 | 939 96 | 908 34 | 550 00 | |
| | Mulmur | .... | .... | .... | .... | .... | 4 | 4 | 4 | 430 00 | 380 00 | 270 00 | 117 95 | 161 88 | 72 00 | .... | |
| | Mono | .... | .... | .... | .... | .... | 3 | 3 | 3 | 270 00 | 270 00 | 185 00 | 72 00 | 64 27 | 49 50 | .... | |
| | Melancthon | 2 | .... | 1 | .... | .... | 4 | 2 | 2 | 190 00 | 180 00 | 180 00 | 49 46 | 47 00 | 48 00 | .... | |
| | Garafraxa, East | 1 | .... | .... | .... | .... | 3 | 1 | 1 | 185 00 | 95 10 | 110 00 | 48 00 | 24 86 | 28 07 | .... | |
| | Shelburne | 1 | 1 | .... | .... | .... | 5 | 5 | 4 | 745 00 | 685 00 | 680 00 | 316 04 | 296 01 | 296 00 | 200 00 | |
| | Amaranth | 1 | .... | .... | .... | .... | 2 | 1 | 1 | 95 00 | 90 00 | 90 00 | 24 74 | 23 62 | 24 00 | .... | |
| | East Luther | 1 | 1 | .... | .... | .... | 3 | 3 | 2 | 345 00 | 365 00 | 320 00 | 182 78 | 168 98 | 175 44 | 120 00 | |

SCHEDULE C.—Comparative Statement by Municipalities, showing the number of Provincial Licenses, etc.—*Continued.*

| Licensee District. | Municipality. | Tavern. Ordinary. | | | Tavern. Beer and Wine. | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Dundas | Iroquois | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | |
| | Chesterville | | 3 | 3 | | | | | | | | | | | | | | | | | | |
| | Morrisburg | 5 | 4 | 5 | | | | 1 | 1 | 1 | | | | | | | | | | | | |
| | Winchester, Township | 6 | | | | | | | | | | | | | | | | | | | | |
| | Williamsburg | 3 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Winchester Village | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Mountain | 6 | 5 | 3 | | | | | | | | | | | | | | | | | | |
| E. Durham. | Port Hope | 11 | 11 | 11 | | | | 1 | 1 | 3 | | | | | | | | | | | | |
| | Millbrook | 4 | 4 | 4 | | | | | | 1 | | | | | | | | | | | | |
| | Hope | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Caven | 2 | 3 | 3 | | | | | | | | | | | | | | | | | | |
| | Manvers | 4 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| W. Durham | Bowmanville | 2 | 2 | 3 | | | | 2 | 2 | 2 | | | | | | | | | | | | |
| | Newcastle | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | | | | | | | | | | | | | |
| | Clarke | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | |
| | Darlington | 2 | 1 | 2 | | | 1 | | | | | | | | 1 | | | | | | | |
| | Cartwright | 2 | 2 | 2 | | | | | | | | | | | | | | | | | 1 | 1 |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891 2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. $ c. | 1890-1. $ c. | 1891-2. $ c. | Proportion thereof paid to Municipalities. 1889-90. $ c. | 1890-1. $ c. | 1891-2. $ c. | Excess over Statutory duties imposed by municipal by-laws. 1891-2. $ c. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dundas | Iroquois | .... | 1 | .... | .... | .... | .... | 4 | 5 | 4 | 865 00 | 851 00 | 860 00 | 422 72 | 415 09 | 403 42 | 320 00 | |
| | Chesterville | .... | .... | .... | .... | .... | .... | .... | 4 | 3 | 10 00 | 775 00 | 600 00 | 3 36 | 315 58 | 246 73 | 180 00 | |
| | Morrisburg | .... | .... | 1 | .... | .... | .... | 6 | 5 | 7 | 1,620 00 | 1,370 00 | 1,325 00 | 981 44 | 820 88 | 701 48 | 600 00 | |
| | Winchester, Township | 2 | .... | .... | .... | .... | .. | 8 | .... | .... | 1,091 00 | .... | .... | 664 94 | .... | .... | .... | Local Option. |
| | Williamsburg | 1 | .... | .... | .... | .... | .... | 4 | 1 | 1 | 325 00 | 105 00 | 205 00 | 108 98 | 34 60 | 59 50 | 15 00 | |
| | Winchester, Village | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 560 00 | 570 00 | 560 00 | 333 92 | 335 54 | 324 50 | 280 00 | |
| | Mountain | 1 | .... | .... | .... | .... | .... | 7 | 5 | 3 | 655 00 | 890 00 | 450 00 | 199 76 | 443 74 | 230 65 | 180 00 | |
| E. Durham. | Port Hope | 1 | 1 | 1 | .... | .... | .... | 13 | 13 | 15 | 4,318 00 | 4,315 00 | 4,885 00 | 2,355 72 | 2,338 72 | 2,648 60 | 2,690 00 | |
| | Millbrook | 1 | .... | .... | .... | .... | .... | 5 | 4 | 5 | 885 00 | 1,004 00 | 1,140 00 | 500 16 | 542 85 | 642 31 | 500 00 | |
| | Hope | .... | .... | .... | .... | .... | .... | 2 | 1 | 1 | 354 00 | 190 00 | 190 00 | 208 86 | 123 54 | 125 12 | 100 00 | |
| | Cavan | .... | .. | 1 | .... | .... | .... | 4 | 3 | 4 | 500 00 | 395 00 | 380 00 | 238 09 | 183 50 | 182 44 | 105 00 | |
| | Manvers | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 350 00 | 350 00 | 350 00 | 219 06 | 217 10 | 220 23 | 170 00 | |
| W. Durham. | Bowmanville | 2 | 2 | 4 | .... | .... | .... | 6 | 6 | 9 | 1,160 00 | 1,190 00 | 1,420 00 | 590 96 | 639 35 | 742 38 | 600 00 | |
| | Newcastle | 1 | .... | .... | 1 | .... | .... | 6 | 4 | 3 | 730 00 | 665 00 | 465 00 | 376 02 | 312 64 | 197 55 | 140 00 | |
| | Clarke | 3 | .... | .... | .... | .... | .... | 7 | 4 | 4 | 735 00 | 740 00 | 720 00 | 430 74 | 456 34 | 432 70 | 360 00 | |
| | Darlington | .... | .... | 1 | .... | .... | .... | 2 | 2 | 4 | 480 00 | 407 50 | 422 50 | 246 58 | 184 32 | 233 02 | 180 00 | |
| | Cartwright | 2 | .... | .... | .... | .... | .... | 4 | 3 | 3 | 310 00 | 312 50 | 312 50 | 156 06 | 143 08 | 132 94 | 87 50 | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. | | | Tavern. Beer and Wine. | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| East Elgin | Aylmer | 5 | 4 | 4 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Port Stanley | 1 | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Springfield | 2 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Vienna | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Yarmouth | 6 | 6 | 5 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Malahide | 3 | 3 | 4 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... |
| | Bayham | 7 | 8 | 7 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| West Elgin | St. Thomas | 20 | 18 | 18 | .... | .... | .... | 6 | 4 | 4 | .... | .... | .... | .... | 2 | .... | .... | 2 | .... | .... | .... | .... |
| | Southwold | 8 | 7 | 7 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Dunwich | 5 | 5 | 2 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Aldborough | 6 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Dutton | .... | .... | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| North Essex | Maidstone | 3 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Windsor | 19 | 22 | 22 | .... | .... | .... | 6 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Rochester | 7 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | East Sandwich | 12 | 11 | 11 | .... | 1 | 1 | 2 | 2 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... |
| | West Sandwich | 6 | 9 | 9 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 |
| | Sandwich, Town | 4 | 5 | 4 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Belle River | 2 | 3 | 3 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| | Anderdon | 2 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Walkerville | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-1. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amount received for Provincial Licences, Transfers, Removals, and Fines in each Municipality. 1889-90. $ c. | 1890-1. $ c. | 1891-2. $ c. | Proportion thereof paid to Municipalities. 1889-90. $ c. | 1890-1. $ c. | 1891-2. $ c. | Excess over Statutory duties imposed by municipal by-laws. 1891-2. $ c. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| East Elgin | Aylmer | 1 | 2 | 2 | ... | ... | ... | 7 | 7 | 7 | 1,126 00 | 1,060 00 | 1,010 00 | 401 39 | 447 74 | 427 71 | 250 00 | |
| | Port Stanley | ... | 1 | 1 | ... | ... | ... | 3 | 4 | 4 | 325 00 | 559 00 | 485 00 | 154 66 | 278 44 | 247 18 | 180 00 | |
| | Springfield | ... | ... | 1 | 1 | ... | ... | 3 | 2 | 2 | 245 00 | 150 00 | 130 00 | 62 18 | 36 54 | 30 78 | ... | |
| | Vienna | ... | 1 | ... | ... | ... | ... | 1 | 2 | 1 | 120 00 | 125 00 | 140 00 | 29 84 | 27 94 | 46 00 | 20 00 | |
| | Yarmouth | 1 | 1 | 1 | ... | ... | ... | 9 | 8 | 7 | 772 00 | 602 50 | 655 00 | 286 96 | 178 41 | 205 90 | ... | |
| | Malahide | ... | 1 | 1 | .. | ... | ... | 4 | 5 | 5 | 327 50 | 320 00 | 425 00 | 114 41 | 92 42 | 132 22 | ... | |
| | Bayham | 2 | 1 | 1 | ... | ... | ... | 9 | 9 | 9 | 660 00 | 749 00 | 680 00 | 223 80 | 218 81 | 197 23 | ... | |
| West Elgin | St. Thomas | 4 | 7 | 3 | 2 | 1 | ... | 32 | 34 | 25 | 8,310 00 | 6,990 00 | 6,825 00 | 4,282 38 | 3,514 43 | 3,473 63 | 2,200 00 | |
| | Southwold | 1 | ... | ... | ... | ... | ... | 9 | 7 | 7 | 725 00 | 630 00 | 650 00 | 271 09 | 213 42 | 231 10 | ... | |
| | Dunwich | ... | ... | 1 | 1 | ... | ... | 7 | 5 | 3 | 635 00 | 510 00 | 185 00 | 294 00 | 182 94 | 65 64 | ... | |
| | Aldborough | 1 | ... | 3 | ... | ... | ... | 7 | 6 | 9 | 805 00 | 890 00 | 795 00 | 455 19 | 478 82 | 436 96 | 240 00 | |
| | Dutton | ... | ... | 2 | ... | ... | ... | ... | ... | 5 | ... | ... | 490 00 | ... | ... | 219 78 | 120 00 | |
| North Essex | Maidstone | ... | ... | ... | ... | ... | ... | 3 | 2 | 2 | 270 00 | 180 00 | 230 00 | 93 00 | 60 36 | 92 38 | ... | |
| | Windsor | 5 | 6 | 5 | ... | ... | ... | 31 | 33 | 32 | 6,105 00 | 6,300 00 | 6,155 00 | 2,970 23 | 3,078 43 | 3,074 89 | 1,855 00 | |
| | Rochester | 3 | 1 | ... | ... | ... | ... | 10 | 7 | 6 | 645 00 | 545 00 | 640 00 | 224 74 | 183 62 | 249 94 | ... | |
| | East Sandwich | 4 | ... | ... | ... | ... | ... | 18 | 15 | 12 | 1,422 50 | 1,230 00 | 1,077 50 | 514 07 | 415 02 | 402 12 | ... | |
| | West Sandwich | 1 | ... | 1 | ... | ... | ... | 8 | 10 | 11 | 582 50 | 875 00 | 860 00 | 208 00 | 290 92 | 312 44 | ... | |
| | Sandwich, Town | ... | 2 | ... | ... | ... | ... | 5 | 8 | 5 | 850 00 | 1,025 00 | 850 00 | 313 33 | 351 48 | 317 36 | 100 00 | |
| | Belle River | ... | ... | ... | ... | ... | ... | 4 | 4 | 4 | 420 00 | 480 00 | 480 00 | 112 00 | 115 49 | 130 40 | ... | |
| | Anderdon | 1 | 2 | ... | ... | ... | ... | 3 | 5 | 2 | 185 00 | 280 00 | 180 00 | 64 58 | 95 58 | 65 20 | ... | |
| | Walkerville | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | 320 00 | ... | ... | 97 80 | ... | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. 1889-90. | 1890-1. | 1891-2. | Tavern. Beer and Wine. 1889-90. | 1890-91. | 1891-2. | Shop. 1889-90. | 1890-1. | 1891-2. | Wholesale. 1889-90. | 1890-1. | 1891-2. | Extended Tavern. 1889-90. | 1890-1. | 1891-2. | Extended Shop. 1889-90. | 1890-1. | 1891-2. | Six months. 1889-90. | 1890-1. | 1891-2. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 56 South Essex | Mersea | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Leamington | 5 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| | Amherstburg | 6 | 6 | 6 | 1 | 1 | 1 | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Malden | 2 | 2 | 2 | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Gosfield, South | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Kingsville | 3 | 2 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | 1 |
| | Essex Centre | 4 | 3 | 2 | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Colchester, North | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Colchester, South | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Pelee Island | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tilbury, West | 9 | 9 | 7 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tilbury, Centre | 4 | .... | .... | .... | . | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Gosfield, North | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Frontenac | Portsmouth | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Kingston | 3 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Portland | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Pittsburg | 3 | 3 | 3 | .... | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Storrington | 2 | 1 | 2 | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Wolfe Island | 3 | 3 | 3 | .... | .... | 1 | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... | 1B&W. | 1B&W. | .... | .... |
| | Loughboro' | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Bedford | 1 | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License Districts. | Municipality. | Licenses Transferred and Removed. | | | | Total. | | | Amount received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over statutory duties imposed by Municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889 90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1891-2. | | |
| | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| South Essex | Mersea | | | | | 2 | 3 | 2 | 220 00 | 225 00 | 98 15 | 98 62 | 96 65 | 40 00 | | Dunkin Act in force. |
| | Leamington | | | 1 | | 4 | 5 | 6 | 1,005 00 | 987 00 | 547 78 | 436 32 | 471 30 | 280 00 | | |
| | Amherstburg | | 1 | 1 | | 9 | 10 | 10 | 1,456 50 | 1,512 50 | 518 71 | 531 73 | 518 22 | 180 00 | | |
| | Malden | | 1 | | | 3 | 3 | 3 | 185 00 | 185 00 | 60 56 | 61 06 | 56 00 | | | |
| | Gosfield, South | | | | | 1 | 1 | 1 | 160 00 | 160 00 | 99 08 | 99 31 | 96 88 | 70 00 | | |
| | Kingsville | | | | | 3 | 4 | 4 | 420 00 | 490 00 | 147 22 | 147 94 | 164 08 | 70 00 | | |
| | Essex, Centre | | | | | 4 | 3 | 3 | 1,040 00 | 660 00 | 676 30 | 327 94 | 238 14 | 157 50 | | |
| | Colchester, North | | | | | | | | | | | | | | | |
| | Colchester, South | | | | | | | | 155 00 | 120 00 | | 75 73 | 53 76 | | | |
| | Pelee Island | | | | | 1 | 1 | | 90 00 | 90 00 | 29 08 | 29 30 | 26 88 | | | |
| | Tilbury, West | | | | | 9 | 11 | 7 | 810 00 | 660 00 | 261 66 | 268 70 | 201 59 | | | |
| | Tilbury, Centre | | 2 | | | 5 | | | 365 00 | | 118 72 | | | | | |
| | Gosfield, North | | | | 1 | | 2 | | 165 00 | | 99 06 | 101 76 | | | | |
| Frontenac | Portsmouth | | 1 | 1 | | 4 | 4 | 4 | 360 00 | 365 00 | 68 52 | 64 62 | 77 65 | | | |
| | Kingston | 1 | 1 | 2 | | 3 | 4 | 6 | 275 00 | 365 00 | 70 42 | 85 68 | 121 72 | | | |
| | Portland | | 1 | | | 4 | 5 | 5 | 450 00 | 450 00 | 114 20 | 113 62 | 125 92 | | | |
| | Pittsburg | | | | | 5 | 6 | 5 | 270 00 | 475 00 | 73 36 | 73 36 | 100 74 | | | |
| | Storrington | | | | | 3 | 4 | 4 | 307 50 | 345 00 | 68 52 | 68 52 | 62 96 | | | |
| | Wolfe Island | | | | | 2 | 2 | 3 | 280 00 | 217 50 | 64 72 | 48 90 | | | | |
| | Loughboro | | 1 | | | 4 | 4 | 4 | 288 75 | 307 50 | 74 24 | 68 11 | 88 14 | | | |
| | Bedford | | 1 | | | 3 | 3 | 3 | 185 00 | 185 00 | 47 58 | 43 66 | 52 46 | | | |
| | | | | | | 2 | 3 | 3 | 127 50 | 205 00 | 34 26 | 50 64 | 52 48 | | | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Glengarry | Alexandria | 5 | 5 | 5 | | | | 2 | 2 | 2 | | | | | | | | | | | | |
| | Charlottenburg | 6 | 7 | 5 | | | | 1 | 1 | 1 | | | | | | 1 | | | | | 1 | 1 |
| | Lancaster, Township | 6 | 4 | 6 | | | | 1 | 1 | 1 | | | | | | | | | | | | |
| | Kenyon | 8 | 7 | 8 | | | | | | | | | | | 2 | | | | | | | |
| | Lochiel | 5 | 6 | 6 | | | | | | 1 | | | | | | | | | | | | |
| | Lancaster, Village | 2 | 2 | 2 | | | | | | | | | | 1 | | 1 | | | | | | |
| Grenville | Prescott | 9 | 8 | 8 | | | | 2 | 2 | 2 | | | | | 1 | | | | | | | |
| | Cardinal | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Kemptville | 4 | 4 | 4 | | | | 1 | 1 | 1 | | | | | | | | | | | | |
| | Merrickville | 3 | 3 | 3 | | | | | | | | | | | 1 | | | | | | | |
| | Augusta | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | |
| | Wolford | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Kitley | 5 | 5 | 5 | | | | | | | | | | | | 1 | | | | | | |
| | South Elmsley | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Oxford | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | |
| Centre Grey | Thornbury | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Artemesia | 5 | 5 | 5 | | | | | | | | | | | | | | | | | | |
| | Holland | 6 | 6 | 6 | | | | | | | | | | | | | | | | | | |
| | Collingwood, Township | 3 | 1 | 1 | 1 | 2 | 1 | | | | | | | | | | | | | | | |
| | Euphrasia | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Osprey | 5 | 5 | 5 | | | | | | | | | | | | | | | | | | |
| | Sullivan | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Markdale | 3 | 3 | 3 | | | | 1 | 1 | 1 | | | | | | | | | | | | |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2 | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over statutory duties imposed by municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Glengarry | Alexandria | 2 | | | | | | 9 | 7 | 7 | 880 00 | 890 00 | 880 00 | 206 80 | 213 28 | 227 60 | | |
| | Charlottenburg | | 2 | 2 | | | | 7 | 11 | 10 | 950 00 | 1,065 00 | 911 50 | 453 77 | 517 54 | 457 41 | 570 00 | |
| | Lancaster, Township | | | | | | | 7 | 5 | 7 | 720 00 | 750 00 | 1,230 00 | 266 26 | 436 14 | 792 70 | 280 00 | |
| | Kenyon | | | 2 | | | | 10 | 7 | 10 | 1,305 00 | 1,100 00 | 1,019 00 | 752 80 | 633 30 | 526 92 | 210 00 | |
| | Lochiel | 1 | | 1 | | | | 6 | 6 | 8 | 605 00 | 720 00 | 885 00 | 287 12 | 343 36 | 440 10 | 209 75 | |
| | Lancaster, Village | | | | | | | 3 | 2 | 3 | 450 00 | 400 00 | 450 00 | 242 24 | 214 1[illegible] | 246 82 | 180 00 | |
| Grenville | Prescott | 1 | 1 | 2 | | | | 12 | 12 | 12 | 3,045 00 | 2,952 50 | 2,760 00 | 1,781 98 | 1,700 81 | 1,617 81 | | |
| | Cardinal | | | | | | | 2 | 2 | 2 | 400 00 | 400 00 | 400 00 | 218 04 | 216 22 | 218 30 | 1,200 00 | |
| | Kemptville | 2 | | 3 | | | | 7 | 5 | 8 | 990 00 | 940 00 | 985 00 | 468 02 | 459 28 | 487 04 | 160 00 | |
| | Merrickville | | | | | | | 3 | 4 | 3 | 595 00 | 502 00 | 495 00 | 270 44 | 222 64 | 222 46 | 300 00 | |
| | Augusta | | | | | | | 3 | 3 | 3 | 270 00 | 270 00 | 270 00 | 87 08 | 84 32 | 87 46 | 135 00 | |
| | Wolford | | | | | | | 1 | 1 | 1 | 200 00 | 220 00 | 200 00 | 139 02 | 147 48 | 139 16 | 110 00 | |
| | Kitley | | | | | | | 5 | 5 | 6 | 500 00 | 470 00 | 542 50 | 169 32 | 149 92 | 187 06 | | |
| | South Elmsley | | | | | | | 2 | 2 | 2 | 180 00 | 180 00 | 180 00 | 58 06 | 56 22 | 58 30 | | |
| | Oxford | 1 | 1 | 1 | | | | 4 | 4 | 4 | 275 00 | 295 00 | 275 00 | 89 50 | 96 02 | 89 91 | | |
| Centre Grey | Thornbury | | 2 | | | | | 2 | 4 | 2 | 300 00 | 310 00 | 320 00 | 74 04 | 73 98 | 80 24 | | |
| | Artemesia | 2 | | 3 | | | | 7 | 5 | 8 | 480 00 | 450 00 | 465 00 | 152 70 | 130 56 | 140 42 | | |
| | Holland | | | 1 | | | | 6 | 6 | 7 | 580 00 | 540 00 | 545 00 | 185 08 | 156 68 | 162 72 | | |
| | Collingwood, Township | | | | | | | 4 | 3 | 2 | 307 50 | 165 00 | 187 50 | 97 16 | 52 22 | 66 86 | | |
| | Euphrasia | | | | | | | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 27 76 | 26 12 | 26 76 | | |
| | Osprey | 1 | 1 | 2 | | | | 6 | 6 | 7 | 455 00 | 455 00 | 460 00 | 141 12 | 132 74 | 138 20 | | |
| | Sullivan | | | 1 | | | | 2 | 2 | 3 | 230 00 | 180 00 | 185 00 | 78 66 | 52 24 | 55 72 | | |
| | Markdale | 2 | | 1 | | 1 | | 7 | 4 | 5 | 615 00 | 500 00 | 635 00 | 237 98 | 113 16 | 242 58 | 120 00 | |

SCHEDULE C.—Comparative Statement by Municipalities, showing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. | | | Tavern. Beer and Wine. | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| North Grey | Owen Sound | 12 | 12 | 12 | | | | 2 | 2 | 2 | | | | | | | | | | 1 | | |
| | Meaford | 5 | 4 | 4 | *1 | 1 | | 1 | 1 | 1 | | | | | | | | | | | | |
| | Derby | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Keppell | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Sydenham | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | |
| | St. Vincent | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Sarawak | | | | | | | | | | | | | | | | | | | | | |
| South Grey | Proton | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | |
| | Durham | 4 | 4 | 4 | | | | 1 | 1 | | | | | | | | | | | | | |
| | Bentinck | 5 | 5 | 5 | | | | 1 | 1 | 1 | | | | | | | | | | | | |
| | Glenelg | 3 | 3 | 1 | | | | | | | | | | | | | | | | | | |
| | Normanby | 10 | 10 | 8 | | | | | | | | | | | | | | | | | | |
| | Egremont | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Dundalk | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | |
| Haldimand | Cayuga, Village | 4 | 5 | 5 | | | | 1 | 1 | 1 | | | | | | | | | | | | |
| | Caledonia | 3 | 4 | 4 | 1 | | | 1 | 1 | 1 | | | | | | | | | | | | |
| | Oneida | | | | | | | | | | | | | | | | | | | | | |
| | Cayuga, North, Tp | 3 | 5 | 3 | | | | | | | | | | | | | | | | | | |
| | Dunn | 3 | 3 | 2 | | | 1 | | | | | | | | | | | 1 | | | | |
| | ainh am | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | |
| | Walpole | 7 | 7 | 7 | 2 | 2 | 2 | | | | | | | | | | | | | | | |
| | Seneca | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | |
| | Hagersville | 4 | 5 | 5 | | | | | | | | | | | | | | | | | | |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891 2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891 2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| North Grey | Owen Sound | 2 | 3 | 2 | .... | .... | .... | 17 | 17 | 16 | 2,913 50 | 2,884 00 | 2,500 00 | 1,137 83 | 1,114 38 | 906 22 | 350 00 | |
| | Meaford | 1 | .... | .... | .... | .... | .... | 8 | 6 | 5 | 1,112 50 | 963 50 | 928 00 | 414 98 | 359 21 | 332 48 | 110 00 | |
| | Derby | 1 | .... | 1 | .... | .... | .... | 3 | 2 | 3 | 185 00 | 400 00 | 245 00 | 63 08 | 167 24 | 87 96 | ..... | |
| | Keppell | .... | .... | .... | .... | .... | .... | 3 | 1 | 1 | 180 00 | 90 00 | 110 00 | 61 59 | 29 50 | 38 04 | ..... | |
| | Sydenham | .... | .... | 2 | .... | .... | .... | 3 | 3 | 5 | 300 00 | 310 00 | 316 00 | 106 03 | 108 20 | 107 44 | ..... | |
| | St. Vincent | .... | 1 | .... | .... | .... | .... | 1 | 2 | 1 | 90 00 | 95 00 | 90 00 | 30 30 | 31 98 | 28 52 | ..... | |
| | Sarawak | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | |
| South Grey. | Proton | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 270 00 | 270 00 | 270 00 | 91 06 | 91 01 | 79 53 | ..... | |
| | Durham | .... | 2 | 3 | .... | .... | .... | 7 | 5 | 7 | 930 00 | 960 00 | 755 00 | 385 58 | 392 47 | 254 51 | 80 00 | |
| | Bentinck | .... | .... | 1 | .... | .... | .... | 6 | 6 | 7 | 540 00 | 580 00 | 631 00 | 176 08 | 202 24 | 199 26 | ..... | |
| | Glenelg | .... | .... | .... | .... | .... | .... | 3 | 3 | 1 | 270 00 | 270 00 | 110 00 | 116 03 | 91 00 | 35 34 | ..... | |
| | Normanby | .... | .... | 1 | .... | .... | .... | 10 | 10 | 9 | 950 00 | 900 00 | 745 00 | 332 28 | 303 36 | 223 12 | ..... | |
| | Egremont | .... | .... | 1 | .... | .... | .... | 2 | 2 | 3 | 220 00 | 180 00 | 185 00 | 83 46 | 60 67 | 55 22 | ..... | |
| | Dundalk | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 560 00 | 620 00 | 510 00 | 269 68 | 296 62 | 229 52 | 150 00 | |
| | Refunds | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | 36 35 | ..... | ..... | ..... | ..... | ..... | |
| Haldimand. | Cayuga, Village | .... | 3 | .... | .... | .... | .... | 5 | 9 | 6 | 720 00 | 905 00 | 840 00 | 249 32 | 335 31 | 301 16 | 120 00 | |
| | Caledonia | .... | .... | .... | .... | .... | .... | 5 | 5 | 5 | 825 00 | 900 00 | 950 00 | 426 00 | 451 98 | 476 10 | 300 00 | |
| | Oneida | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | |
| | Cayuga, North, Tp | .... | .... | 2 | .... | .... | .... | 3 | 5 | 6 | 270 00 | 470 00 | 330 00 | 84 00 | 162 12 | 115 74 | ..... | |
| | Dunn | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 270 00 | 270 00 | 217 50 | 84 00 | 91 20 | 75 48 | ..... | |
| | Rainham | .... | .... | .... | .... | .... | .... | 4 | 4 | 4 | 380 00 | 390 00 | 360 00 | 120 87 | 136 79 | 120 76 | ..... | |
| | Walpole | .... | 2 | 1 | .... | .... | .... | 9 | 11 | 10 | 705 00 | 735 00 | 740 00 | 224 00 | 258 36 | 259 12 | ..... | |
| | Seneca | 1 | .... | 3 | .... | .... | .... | 4 | 3 | 6 | 335 00 | 330 00 | 345 00 | 146 32 | 151 18 | 158 12 | 60 00 | |
| | Hagersville | .... | .... | .... | .... | .... | .... | 4 | 5 | 5 | 480 00 | 600 00 | 600 00 | 112 00 | 151 98 | 150 95 | ..... | |

* One Beer and Wine Vessel Issued.

SCHEDULE C.—Comparative Statement by Municipalities, showing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. 1889-90. | Tavern. Ordinary. 1890-1. | Tavern. Ordinary. 1891-2. | Tavern. Beer and Wine. 1889-90. | Tavern. Beer and Wine. 1890-1. | Tavern. Beer and Wine. 1891-2. | Shop. 1889-90. | Shop. 1890-1. | Shop. 1891-2. | Wholesale. 1889-90. | Wholesale. 1890-1. | Wholesale. 1891-2. | Extended Tavern. 1889-90. | Extended Tavern. 1890-1. | Extended Tavern. 1891-2. | Extended Shop. 1889-90. | Extended Shop. 1890-1. | Extended Shop. 1891-2. | Six Months. 1889-90. | Six Months. 1890-1. | Six Months. 1891-2. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Haliburton | Minden | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Dysert | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Anson | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Sherban | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Glamorgan | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Snowdon | 1 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Halton | Nelson | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Nassagaweya | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Esquesing | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Burlington | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Georgetown | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Oakville | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Milton | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Acton | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Trafalgar | 3 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Hamilton | Hamilton, City | 90 | 92 | 91 | 1 | .... | .... | 38 | 38 | 37 | 3 | 3 | 3 | 19 | 4 | 4 | .... | .... | 1 | 1 B&W | 1 B&W | 1 B&W |
| East Hastings | Tyendinaga | 9 | 9 | 9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Hungerford | 8 | 8 | 4 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Thurlow | 7 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Deseronto | 5 | 5 | 5 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tweed | .... | .... | 4 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | 1890-1. | 1891-2. | Removals. 1889-90. | 1890-1. | 1891-2. | Total. 1889-90. | 1890-1. | 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by Municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Haliburton.. | Minden | 1 | 1 | .... | .... | .... | .... | 3 | 3 | 2 | 185 00 | 185 00 | 180 00 | 48 24 | 44 69 | 49 92 | ..... ... | |
| | Dysert | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 180 00 | 180 00 | 46 31 | 42 90 | 49 91 | ..... | |
| | Anson | .... | 1 | .... | .... | .... | .... | 1 | 2 | 1 | 90 00 | 95 00 | 90 00 | 23 16 | 23 24 | 24 96 | ..... | |
| | Sherban | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 23 16 | 21 46 | 24 96 | .. ..... | |
| | Glamorgan | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | 50 00 | ..... ... | . ..... | 19 29 | ..... | ..... | .. ..... | |
| | Snowdon | .... | .... | .... | .... | .... | .... | 1 | 1 | 2 | 90 00 | 90 00 | 180 00 | 23 14 | 21 44 | 49 91 | ..... ... | |
| Halton .... | Nelson | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 120 00 | 120 00 | 120 00 | 56 78 | 55 96 | 56 70 | 30 00 | |
| | Nassagaweya | .... | .... | 2 | .... | .... | .... | 1 | 1 | 3 | 160 00 | 100 00 | 100 00 | 58 03 | 30 28 | 31 14 | ... ..... | |
| | Esquesing | 1 | .... | 1 | .... | .... | .... | 6 | 5 | 6 | 535 00 | 500 00 | 505 00 | 199 52 | 179 77 | 185 68 | 50 00 | |
| | Burlington | 1 | .... | 1 | .... | .... | .... | 4 | 3 | 4 | 545 00 | 540 00 | 595 00 | 262 58 | 257 86 | 284 54 | 180 00 | |
| | Georgetown | 1 | 1 | 1 | .... | .... | .... | 5 | 5 | 6 | 805 00 | 705 00 | 685 00 | 340 78 | 291 94 | 285 68 | 170 00 | |
| | Oakville | .... | .... | 1 | .... | .... | .... | 5 | 5 | 6 | 850 00 | 850 00 | 880 00 | 278 52 | 273 04 | 291 30 | 100 00 | |
| | Milton | .... | 1 | .... | .... | .... | .... | 3 | 4 | 3 | 590 00 | 575 00 | 570 00 | 236 01 | 225 98 | 226 78 | 120 00 | |
| | Acton | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 585 00 | 535 00 | 510 00 | 305 34 | 238 68 | 230 08 | 150 00 | |
| | Trafalgar | .... | .... | .... | .... | .... | .... | 3 | 2 | 2 | 300 00 | 200 00 | 200 00 | 110 35 | 71 92 | 73 38 | 20 00 | |
| Hamilton .... | Hamilton, City | 23 | 21 | 20 | 4 | 9 | 1 | 179 | 168 | 158 | 42,521 25 | 41,968 75 | 41,448 09 | 15,227 74 | 14,748 95 | 14,378 40 | 6,454 20 | |
| East Hastings . | Tyendinaga | 1 | 1 | 2 | .... | .... | .... | 10 | 10 | 11 | 835 00 | 859 00 | 828 00 | 264 12 | 264 87 | 238 50 | ..... | |
| | Hungerford | .... | 2 | 2 | .... | .... | .... | 9 | 11 | 6 | 950 00 | 1,175 00 | 510 00 | 317 88 | 580 32 | 246 84 | 140 00 | |
| | Thurlow | 1 | .... | 1 | .... | .... | .... | 8 | 6 | 7 | 635 00 | 540 00 | 585 00 | 198 66 | 161 90 | 173 10 | ..... | |
| | Deseronto | 1 | 2 | 1 | .... | .... | .... | 8 | 9 | 8 | 1,995 00 | 1,900 00 | 1,895 00 | 1,150 87 | 1,096 32 | 1,081 49 | 840 00 | |
| | Tweed | .... | .... | 1 | .... | .... | .... | ..... | ..... | 6 | ..... | ..... | 650 00 | .. ..... | ..... | 163 90 | 25 00 | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc —*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| ++ North Hastings.. | Marmora and Lake | 4 | 4 | 4 | | | | 1 | 1 | 1 | | | | | | | | | | | | |
| | Huntingdon | 1 | 2 | 1 | | | | | | | | | | | | | | | | | | |
| | Stirling | 3 | 3 | 3 | | | | 1 | 1 | 1 | | | | | | | | | | | | |
| | Madoc, Township | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Elzevir and Grimthorpe | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Tudor and Cashell | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | |
| | Wollaston | | | | | | | | | | | | | | | | | | | | | |
| | Monteagle and Herschel | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Rawdon | 3 | 4 | 4 | | | | | | | | | | | | | | | | | | |
| | Madoc, Village | 3 | 3 | 3 | | | | 2 | 1 | 1 | | | | | | | | | | | | |
| | Wicklow and Bangor | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Dungannon & Faraday | | | | | 1 | 2 | | | | | | | | | | | | | | | |
| | Carlow and Mayo | | | | | | | | | | | | | | | | | | | | | |
| | Limerick | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| West Hastings . | Belleville | 25 | 25 | 25 | | | | 3 | 3 | 3 | 2 | 2 | 2 | | | | | | | | | |
| | Trenton | 10 | 10 | 10 | | | | 2 | 2 | 2 | | | | | 1 | | | | | | | |
| | Sidney | 6 | 6 | 6 | | | | | | | | | | | | | | | | | | |
| East Huron. | Grey | 6 | 7 | 6 | | | 1 | | | | | | | | | | | | | | | |
| | McKillop | 3 | 3 | 3 | | | | | | | | | | | | | | | | | | |
| | Hullett, East part | 1 | | | | | | | | | | | | | | | | | | | | |
| | Morris | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Howick | 7 | 5 | 6 | | | | | | | | | | | | | | | | | | |
| | Turnberry | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Brussels | 4 | 4 | 4 | | | | | | | | | | | | | | | | | | |
| | Wroxeter | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| North Hastings. | Marmora and Lake | .... | 2 | 1 | .... | .... | .... | 5 | 7 | 6 | 470 00 | 480 00 | 455 00 | 141 70 | 154 18 | 141 18 | ..... | |
| | Huntingdon | .... | .... | .. | .... | .... | .... | 2 | 2 | 1 | 180 00 | 180 00 | 90 00 | 53 12 | 56 06 | 27 78 | ..... | |
| | Stirling | .... | 1 | 2 | .... | .... | .... | 4 | 5 | 6 | 520 00 | 525 00 | 530 00 | 146 28 | 154 48 | 155 72 | 40 00 | |
| | Madoc, Township | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 200 00 | 180 00 | 180 00 | 62 00 | 56 06 | 55 54 | ..... | |
| | Elzevir & Grimsthorpe | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 180 00 | 180 00 | 53 12 | 56 06 | 55 54 | ..... .... | |
| | Tudor and Cashell | .... | 1 | 1 | .... | .... | .... | 4 | 5 | 5 | 260 00 | 365 00 | 385 00 | 106 28 | 114 50 | 122 67 | ..... | |
| | Wollaston | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... .... | |
| | Monteagle and Herschel | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 180 00 | 180 00 | 53 14 | 56 06 | 55 54 | ..... | |
| | Rawdon | .... | .... | .... | .... | .... | .... | 3 | 4 | 4 | 290 00 | 360 00 | 360 00 | 88 56 | 112 14 | 111 10 | ..... .... | |
| | Madoc, Village | 2 | 2 | 1 | .... | .... | .... | 7 | 6 | 5 | 810 00 | 650 00 | 650 00 | 337 28 | 276 82 | 275 72 | 160 00 | |
| | Wicklow and Bangor | 1 | .... | .... | .... | .... | .... | 2 | 1 | 1 | 95 00 | 90 00 | 90 00 | 28 77 | 28 04 | 27 77 | .... .. | |
| | Dungannon & Faraday | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | ..... .. | 37 50 | 75 00 | ..... | 14 02 | 27 78 | ..... | |
| | Carlow and Mayo | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | |
| | Limerick | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 180 00 | 400 00 | 53 14 | 56 06 | 275 54 | 220 00 | |
| West Hastings. | Belleville | 10 | 5 | 2 | .... | .... | .... | 40 | 35 | 32 | 7,740 00 | 7,935 00 | 7,920 00 | 3,121 09 | 3,179 20 | 3,205 37 | 1,550 00 | |
| | Trenton | 3 | 2 | 4 | 1 | 1 | 2 | 16 | 16 | 18 | 3,074 80 | 2,924 17 | 2,927 00 | 1,587 86 | 1,503 71 | 1,513 59 | 960 00 | |
| | Sidney | 1 | 2 | .... | .... | .... | .... | 7 | 8 | 6 | 545 00 | 550 00 | 580 00 | 179 78 | 178 08 | 196 48 | .... .... | |
| East Huron. | Grey | 2 | 4 | 3 | 2 | 1 | .... | 10 | 12 | 10 | 640 00 | 685 00 | 662 50 | 182 90 | 150 77 | 177 43 | ..... | |
| | McKillop | .... | .... | 1 | .... | .... | .... | 3 | 3 | 4 | 270 00 | 270 00 | 275 00 | 71 56 | 60 00 | 69 10 | ..... | |
| | Hullett, East part | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 110 00 | ..... | ..... | 31 80 | ..... | ..... | ..... | |
| | Morris | .... | 1 | .... | .... | .... | .... | 2 | 3 | 2 | 180 00 | 185 00 | 180 00 | 47 71 | 40 55 | 44 82 | ..... | |
| | Howick | .... | .... | 2 | .... | .... | .... | 7 | 5 | 8 | 630 00 | 510 00 | 550 00 | 166 98 | 116 74 | 138 22 | .. ..... | |
| | Turnberry | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 23 86 | 20 00 | 22 42 | ..... | |
| | Brussels | 1 | .. | 3 | .... | 1 | 1 | 5 | 5 | 8 | 675 00 | 655 00 | 720 00 | 269 34 | 242 70 | 279 55 | 160 00 | |
| | Wroxeter | .... | 1 | 1 | .... | .... | .... | 2 | 3 | 3 | 320 00 | 355 00 | 365 00 | 127 70 | 130 25 | 141 64 | 80 00 | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. 1889-90. | 1890-1. | 1891-2. | Tavern. Beer and Wine. 1889-90. | 1890-1. | 1891-2. | Shop. 1889-90. | 1890-1. | 1891-2. | Wholesale. 1889-90. | 1890-1. | 1891-2. | Extended Tavern. 1889-90. | 1890-1. | 1891-2. | Extended Shop. 1889-90. | 1890-1. | 1891-2. | Six Months. 1889-90. | 1890-1. | 1891-2. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Huron | Exeter | 5 | 5 | 5 | .... | .... | .... | 1 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Seaforth | 7 | 7 | 7 | .... | .... | .... | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Goderich, T'ship, S. pt. | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Bayfield | 2 | 2 | 2 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Stephen | 8 | 9 | 10 | 2 | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Usborne | 4 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Hay | 6 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tuckersmith | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Stanley | 3 | 3 | 4 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| West Huron | Goderich, Town | 8 | 8 | 8 | .... | .... | .... | 2 | 1 | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Wawanosh, East | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Hullett | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Wawanosh, West | 2 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Wingham | 6 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Clinton | 8 | 8 | 7 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Ashfield | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Colborne | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | L.&W | .... | .... |
| | Blythe | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| East Kent | Howard | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Blenheim | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Dresden | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Thamesville | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Camden | 1 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Bothwell | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Harwich | 10 | 8 | 7 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Orford | 4 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Ridgetown | 4 | 4 | 4 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by Municipal by-laws. 1891-92. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| South Huron | Exeter | 1 | 2 | 1 | .... | .... | .... | 7 | 9 | 8 | 990 00 | 1,180 00 | 1,175 00 | 458 72 | 550 04 | 557 82 | 330 00 | |
| | Seaforth | 2 | 2 | 3 | .... | .... | .... | 11 | 11 | 11 | 1,955 00 | 1,865 00 | 1,685 00 | 940 18 | 878 57 | 793 27 | 410 00 | |
| | Goderich, T'ship, S. pt. | .... | 1 | 1 | .... | .... | .... | 1 | 2 | 2 | 90 00 | 95 00 | 95 00 | 31 84 | 33 26 | 34 85 | ..... | |
| | Bayfield | .... | 1 | 1 | .... | .... | .... | 4 | 4 | 4 | 430 00 | 325 00 | 305 00 | 116 76 | 89 55 | 83 08 | ..... | |
| | Stephen | .... | .... | 2 | .... | .... | .... | 11 | 9 | 12 | 905 00 | 840 00 | 910 00 | 329 06 | 291 70 | 326 98 | ..... | |
| | Usborne | .... | .... | .... | .... | .... | .... | 4 | 3 | 2 | 360 00 | 270 00 | 180 00 | 127 36 | 92 12 | 64 32 | ..... | |
| | Hay | 3 | 2 | 6 | .... | .... | .... | 9 | 8 | 6 | 605 00 | 580 00 | 621 00 | 225 56 | 204 68 | 236 40 | ..... | |
| | Tuckersmith | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 280 00 | 270 00 | 270 00 | 100 84 | 92 12 | 96 48 | ..... | |
| | Stanley | 1 | 1 | 2 | .... | .... | .. | 5 | 4 | 6 | 352 50 | 455 00 | 390 00 | 154 10 | 201 44 | 144 74 | ..... | |
| West Huron | Goderich, Town | .... | 1 | .... | .. | .... | .. | 10 | 10 | 10 | 1,950 00 | 1,760 00 | 1,803 75 | 864 84 | 775 06 | 793 26 | 416 25 | |
| | Wawanosh, East | .... | .... | 1 | .... | .... | .... | 1 | 1 | 2 | 90 00 | 90 00 | 95 00 | 31 10 | 30 62 | 33 12 | ..... | |
| | Hullett | 1 | .... | .... | .... | .... | .... | 3 | 2 | 2 | 185 00 | 180 00 | 180 00 | 64 82 | 61 26 | 61 14 | ..... | |
| | Wawanosh, West | .... | 1 | .... | .... | .... | .... | 2 | 2 | 1 | 200 00 | 95 00 | 90 00 | 72 60 | 33 18 | 30 56 | ..... | |
| | Wingham | .... | 1 | 2 | .... | .... | .... | 6 | 7 | 8 | 1,040 00 | 985 00 | 970 00 | 350 40 | 317 78 | 309 64 | 60 00 | |
| | Clinton | 2 | 2 | 1 | .... | .... | .... | 11 | 11 | 9 | 1,885 00 | 1,855 00 | 1,725 00 | 845 78 | 823 55 | 770 14 | 360 00 | |
| | Ashfield | .... | 2 | 1 | .... | .... | .... | 5 | 7 | 6 | 470 00 | 460 00 | 455 00 | 165 92 | 158 24 | 155 38 | ..... | |
| | Colborne | .... | .... | 2 | .... | .. | .... | 6 | 5 | 7 | 518 75 | 530 00 | 535 00 | 189 28 | 193 96 | 196 15 | ..... | |
| | Blythe | .... | 1 | 2 | .... | .... | .... | 4 | 5 | 6 | 580 00 | 755 00 | 630 00 | 214 82 | 321 62 | 257 56 | 120 00 | |
| East Kent | Howard | .... | .... | .... | .... | .. | .... | 2 | 2 | 2 | 230 00 | 210 00 | 180 00 | 83 18 | 65 18 | 53 36 | ..... | |
| | Blenheim | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 860 00 | 810 00 | 810 00 | 501 90 | 477 30 | 466 72 | 360 00 | |
| | Dresden | 1 | .... | 2 | .... | .... | .... | 5 | 4 | 6 | 1,215 00 | 1,200 00 | 1,110 00 | 702 62 | 671 14 | 635 66 | 480 00 | |
| | Thamesville | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 450 00 | 450 00 | 450 00 | 178 06 | 168 20 | 170 02 | 90 00 | |
| | Camden | .... | .... | .... | .... | .... | .... | 1 | 2 | 2 | 140 00 | 180 00 | 230 00 | 53 82 | 52 12 | 75 60 | ..... | |
| | Bothwell | 1 | 1 | .... | .... | 1 | .. | 4 | 5 | 3 | 665 00 | 670 00 | 660 00 | 329 87 | 318 60 | 316 74 | 210 00 | |
| | Raiwich | .... | 2 | 5 | .... | .... | .... | 11 | 10 | 12 | 1,365 00 | 1,030 00 | 970 00 | 648 76 | 456 30 | 435 18 | 175 00 | |
| | Orford | 1 | .... | 2 | .... | .... | .... | 4 | 3 | 5 | 410 00 | 340 00 | 280 00 | 141 88 | 108 60 | 84 56 | ..... | |
| | Ridgetown | 2 | 3 | 5 | | 1 | | 7 | 9 | 10 | 1,370 00 | 1,330 00 | 1,425 00 | 774 81 | 731 14 | 777 94 | 540 00 | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. | | | Tavern. Beer and Wine. | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| West Kent. | Chatham, Town | 21 | 21 | 16 | .... | .... | .... | 3 | 3 | 3 | .... | .... | .... | .... | .... | 5 | .... | .... | .... | .... | .... | .... |
| | Chatham, Township | 3 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Dover | 5 | 5 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Wallaceburg | 7 | 7 | 7 | .... | .... | .... | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... |
| | Raleigh | 2 | 3 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tilbury, Centre | .... | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tilbury, East | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 45 Kingston | Kingston, City | *39 | 38 | 39 | 1 | .... | .... | 15 | 15 | 15 | 1 | 1 | 1 | 2 | .... | 1 | .... | .... | .... | .... | 2 B. & W. | 1 |
| East Lambton. | Bosanquet | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 B. & W. | .... |
| | Forest | 4 | 4 | 3 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... |
| | Warwick | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Brooke | 2 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Wyoming | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Watford | 4 | 4 | 4 | .... | .... | .... | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... |
| | Euphemia | 3 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Plympton | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Arkona | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Thedford | 1 | 1 | 1 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... |
| | Alvinston | 4 | 4 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| West Lambton. | Petrolea | 6 | 6 | 6 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Moore | 6 | 7 | 6 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Sarnia, Township | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 |
| | Sombra | 6 | 8 | 7 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Oil Springs | 4 | 4 | 4 | .. | .. | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Enniskillen | 3 | 3 | 3 | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Sarnia, Town | 8 | 9 | 9 | .... | .... | .... | 2 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Point Edward | 5 | 5 | 4 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | 1 |
| | Dawn | .. | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. | | | | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by Municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1891-2. | |
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| West Kent. | Chatham, Town | 1 | 5 | 8 | .... | .... | .... | 25 | 29 | 32 | 9,939 00 | 10,095 00 | 9,089 95 | 5,516 74 | 5,624 44 | 5,009 01 | 5,212 45 | |
| | Chatham, Township | 1 | 1 | ... | .... | .... | .... | 4 | 4 | 2 | 275 00 | 275 00 | 180 00 | 87 87 | 94 80 | 57 93 | .... .... | |
| | Dover | 2 | 2 | .. | .... | .... | .... | 7 | 8 | 2 | 635 00 | 651 00 | 260 00 | 269 75 | 291 16 | 112 07 | 30 00 | |
| | Wallaceburg | 2 | 3 | 1 | .... | .... | .... | 11 | 12 | 10 | 1,690 00 | 1,846 90 | 1,747 75 | 861 24 | 962 25 | 877 27 | 517 50 | |
| | Raleigh | .. | .... | .... | .... | .... | .... | 2 | 3 | 1 | 500 00 | 470 00 | 220 00 | 326 50 | 282 49 | 122 75 | 60 00 | |
| | Tilbury, Centre | .... | 2 | .... | .... | .... | .... | .... | 6 | 4 | ..... | 670 00 | 640 00 | ..... .. | 278 86 | 255 16 | 120 00 | |
| | Tilbury, East | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... .. | 100 00 | ..... | ..... .. | 51 24 | .... .. | ..... | |
| Kingston | Kingston, City | 3 | 7 | 7 | 1 | .... | .. | 62 | 63 | 64 | 18,464 00 | 16,950 00 | 17,570 00 | 9,002 36 | 8,666 39 | 9,014 18 | 5,475 00 | |
| East Lambton | Bosanquet | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... . | 73 75 | ..... | ..... .. | 61 95 | .. ..... | ..... | |
| | Forest | .. | 1 | 1 | .... | .... | ... | 5 | 6 | 5 | 1,000 00 | 1,005 00 | 745 00 | 447 53 | 437 81 | 316 60 | 162 50 | |
| | Warwick | .... | .... | .... | .... | .... | .... | 1 | .... | 1 | 220 00 | ..... | 120 00 | 134 32 | ..... | 56 05 | 30 00 | |
| | Brooke | .... | .... | .... | .... | .... | .... | 2 | 1 | 2 | 400 00 | 200 00 | 200 00 | 279 26 | 137 84 | 72 08 | 20 00 | |
| | Wyoming | 1 | 1 | .... | .... | .... | .... | 4 | 4 | 3 | 625 00 | 605 00 | 640 00 | 341 24 | 325 78 | 335 48 | 240 00 | |
| | Watford | 2 | 1 | 1 | .... | .... | .... | 8 | 7 | 7 | 1,110 00 | 1,085 00 | 777 50 | 562 72 | 491 74 | 329 24 | 192 50 | |
| | Euphemia | .... | .... | .... | .... | .... | .... | 3 | 3 | 2 | 300 00 | 300 00 | 300 00 | 118 90 | 113 50 | 115 56 | 20 00 | |
| | Plympton | .... | .... | 2 | .... | .... | .... | 1 | 1 | 3 | 160 00 | 160 00 | 195 00 | 99 62 | 97 84 | 111 24 | 70 00 | |
| | Arkona | .... | .... | 1 | .... | .... | .... | 2 | 2 | 3 | 310 00 | 350 00 | 355 00 | 129 25 | 165 66 | 164 26 | 110 00 | |
| | Thedford | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 435 00 | 295 00 | 162 50 | 234 01 | 99 92 | 45 06 | 12 50 | |
| | Alvinston | 1 | .... | 1 | .... | .... | .... | 5 | 4 | 4 | 805 00 | 910 00 | 795 00 | 440 98 | 482 32 | 504 64 | 420 00 | |
| West Lambton | Petrolea | .... | 3 | 1 | .... | .... | .... | 8 | 11 | 9 | 2,180 00 | 2,435 00 | 2,225 00 | 1,310 12 | 1,452 03 | 1,347 16 | 960 00 | |
| | Moore | 2 | 2 | 2 | .... | .... | .... | 9 | 10 | 9 | 805 00 | 910 00 | 1,015 00 | 364 95 | 434 24 | 584 08 | 315 00 | |
| | Sarnia, Township | .... | 1 | .... | .... | .... | .... | 1 | 3 | 2 | 100 00 | 155 00 | 150 00 | 42 00 | 66 10 | 64 42 | 15 00 | |
| | Sombra | .... | 4 | 2 | .... | .... | .... | 6 | 12 | 10 | 560 00 | 820 00 | 795 00 | 201 56 | 348 87 | 349 82 | 72 50 | |
| | Oil Springs | .... | .... | .... | .... | .... | .... | 4 | 4 | 4 | 870 00 | 800 00 | 860 00 | 484 45 | 449 06 | 484 74 | 320 00 | |
| | Enniskillen | 1 | .... | 1 | .... | .... | .... | 4 | 3 | 4 | 295 00 | 270 00 | 275 00 | 108 74 | 96 80 | 101 59 | ..... | |
| | Sarnia, Town | 1 | 1 | 1 | .... | .... | .... | 11 | 13 | 13 | 2,865 00 | 3,365 00 | 3,265 00 | 1,710 26 | 2,023 44 | 1,980 93 | 1,440 00 | |
| | Point Edward | .... | 1 | 3 | .... | .... | 2 | 6 | 8 | 12 | 1,515 00 | 1,625 00 | 1,325 00 | 1,053 50 | 1,106 04 | 878 46 | 700 00 | |
| | Dawn | .... | .... | .... | .... | .... | .... | .... | 2 | 2 | ..... .. | 300 00 | 300 00 | ..... | 184 52 | 185 88 | 120 00 | |

*Four Ordinary and three Beer and Wine Vessel not included.

SCHEDULE C.—Comparative Statements by Municipalities, shewing the number of Provincial licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| North Lanark | Lanark Village | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Pakenham | 3 | 3 | 3 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Dalhousie | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Almonte | 4 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Carleton Place | 6 | 6 | 8 | .... | .... | .... | 1 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Ramsay | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Lanark, Township | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Lavant | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| South Lanark | Perth | 7 | 7 | 7 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Smith's Falls | 6 | 6 | 8 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Beckwith | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Bathurst | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Drummond | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | South Sherbrooke | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. | | | | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | | |
| | | 1889-90. | 1890-91. | 1891-92. | 1889-90. | 1890-91. | 1891-92. | 1889-90. | 1890-91. | 1891-92. | 1889-90. | 1890-91. | 1891-92. | 1889-90. | 1890-91. | 1891-92. | 1891-92. | |
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| North Lanark... | Lanark, Village | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 365 00 | 350 00 | 350 00 | 167 22 | 169 06 | 168 54 | 110 00 | |
| | Pakenham | .... | .... | .... | .... | .... | .... | 4 | 4 | 3 | 360 00 | 360 00 | 320 00 | 101 74 | 118 12 | 112 20 | ..... | |
| | Dalhousie | .... | .... | .... | .. | .... | .... | 2 | 2 | 2 | 220 00 | 180 00 | 180 00 | 90 87 | 59 06 | 58 54 | .... .... | |
| | Almonte | .... | .... | 1 | .... | .... | .... | 4 | 5 | 6 | 1,210 10 | 1,390 00 | 1,385 00 | 670 81 | 816 54 | 812 21 | 600 00 | |
| | Carleton Place | .... | .... | .. | .... | .... | .... | 7 | 10 | 10 | 2,160 00 | 2,900 00 | 2,765 00 | 302 14 | 1,692 18 | 1,621 94 | 1,200 00 | |
| | Ramsay | .... | .... | 1 | .... | .... | .... | 3 | 3 | 4 | 300 00 | 320 00 | 345 00 | 106 28 | 128 44 | 139 76 | 30 00 | |
| | Lanark, Township | .... | .... | .... | .... | .... | .... | .... | 2 | .... | 130 00 | 225 00 | ..... | 55 10 | 81 20 | ..... | .... .... | |
| | Lavant | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | ..... | 90 00 | 90 00 | ..... | 29 54 | 29 26 | .... .... | |
| South Lanark.. | Perth | .... | .... | .... | .... | .... | .... | 9 | 9 | 9 | 2,510 00 | 2,510 00 | 2,490 00 | 1,460 40 | 1,455 05 | 1,455 82 | 1,080 00 | |
| | Smith's Falls | 4 | 5 | 2 | .... | .... | .... | 12 | 13 | 12 | 2,240 00 | 2,205 00 | 2,750 00 | 1,302 36 | 1,281 14 | 1,585 81 | 1,200 00 | |
| | Beckwith | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 230 00 | 180 00 | 180 00 | 80 82 | 56 26 | 57 82 | ..... | |
| | Bathurst | .... | .... | .... | .... | .... | .. | 1 | 1 | .... | 90 00 | 90 00 | ..... | 28 52 | 28 12 | ..... | ..... | |
| | Drummond | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 190 00 | 190 00 | 190 00 | 67 07 | 66 26 | 67 82 | 10 00 | |
| | South Sherbrooke | .... | .... | 1 | .... | .... | .... | 1 | 1 | 2 | 110 00 | 95 00 | 100 00 | 48 54 | 33 12 | 36 32 | 5 00 | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Lennox .. | Napanee | 8 | 8 | 8 | .... | .... | .... | 3 | 2 | 2 | ..... | ..... | ... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... |
| | Bath | .... | 2 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Adolphustown | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... |
| | Amherst Island | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | . | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Ernestown | 2 | 3 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | 1 | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... |
| | North Fredericksburg | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Richmond | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Lincoln .... | Niagara, Township | 1 | 3 | 3 | 3 | 1 | 1 | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Grimsby, Township | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Grantham | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Merritton | 5 | 4 | 4 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | South | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Port Dalhousie | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 1 | 1 |
| | Clinton | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ... | ..... |
| | Grimsby, Village | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Niagara, Town | 5 | 5 | 5 | .... | .... | .... | 2 | 2 | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 1 | 1 |
| | Beamsville | 3 | 3 | 3 | .... | .... | .... | 1 | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| London .... | London, City | 52 | 54 | 41 | 6 | 2 | .... | 13 | 12 | 10 | 1 | 1 | 1 ext. | ..... | 2 & 2B&W | 12 & 3B&W. | ..... | 1 | 1 | ..... | ..... | ..... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | 1890-1. | 1891-2. | Removals. 1889-90. | 1890-1. | 1891-2. | Total. 1889-90. | 1890-1. | 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Lennox | Napanee | 4 | 2 | 1 | .... | .... | .... | 15 | 13 | 11 | 2,996 00 | 2,937 50 | 3,025 00 | 1,659 99 | 1,595 74 | 1,644 98 | 1,200 00 | |
| | Bath | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 260 00 | 240 00 | 260 00 | 52 48 | 44 33 | 55 36 | ..... | |
| | Adolphustown | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 45 00 | 50 00 | ..... | 11 24 | 18 47 | ..... | ..... | |
| | Amherst Island | 1 | .. | .... | .... | .... | .... | 3 | 2 | 2 | 185 00 | 180 00 | 180 00 | 46 84 | 44 33 | 47 48 | ..... | |
| | Ernestown | .... | 1 | 1 | .. | .... | .... | 3 | 4 | 4 | 245 00 | 275 00 | 235 00 | 67 48 | 68 40 | 77 14 | ..... ... | |
| | North Fredericksburg | .... | .... | .... | .... | .... | .. | .. | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | |
| | Richmond | .... | .... | .... | .... | .... | ... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 22 50 | 22 17 | 23 72 | ..... | |
| | Niagara, Township | 1 | 1 | 2 | .... | .... | .... | 5 | 5 | 6 | 247 50 | 312 50 | 317 50 | 98 24 | 108 64 | 104 39 | .... ..... | |
| | Grimsby, Township | 1 | .... | 1 | .... | .... | .... | 3 | 2 | 3 | 245 00 | 240 00 | 215 00 | 122 98 | 120 64 | 119 30 | 60 00 | |
| | Grantham | .... | .... | 2 | .... | .... | .... | 3 | 3 | 5 | 270 00 | 270 00 | 300 00 | 90 68 | 90 96 | 99 64 | ..... | |
| | Merritton | 2 | 1 | ... | .... | .... | .... | 7 | 5 | 4 | 1,030 00 | 1,023 00 | 800 00 | 566 24 | 553 96 | 433 87 | 320 60 | |
| | South | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 210 00 | 180 00 | 180 00 | 75 57 | 60 64 | 56 94 | ..... ..... | |
| | Port Dalhousie | 2 | 2 | 2 | .... | .... | .... | 7 | 7 | 7 | 970 00 | 930 00 | 930 00 | 531 30 | 511 60 | 502 35 | 360 00 | |
| | Clinton | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 57 50 | 160 00 | ..... ..... | 35 12 | 75 59 | ..... | ..... | |
| | Grimsby, Village | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 420 00 | 440 00 | 420 00 | 150 68 | 161 07 | 145 40 | 60 00 | |
| | Niagara, Town | 1 | .... | .... | 1 | .... | .... | 10 | 8 | 8 | 1,254 35 | 1,285 00 | 1,257 90 | 367 45 | 384 08 | 347 05 | .... . . | |
| | Beamsville | 1 | .... | .... | 1 | .... | .... | 6 | 4 | 4 | 570 00 | 560 00 | 560 00 | 205 96 | 201 28 | 193 86 | 80 00 | |
| ..... | London, City | 9 | 9 | 15 | 1 | 1 | 4 | 82 | 84 | 87 | 18,715 00 | 19,297 76 | 15,532 63 | 5,060 20 | 5,133 54 | 4,004 45 | 895 00 | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Manitoulin.. | Little Current | .... | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Gore Bay | .... | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Assignac | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Howland | 4 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Gordon | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tehkummah | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Billings | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Carnarvon | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Unorganized Territory | 4 | 4 | 7 | .... | .... | .... | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| East Middlesex | London, Township | 11 | 18 | 20 | 1 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Dorchester | 3 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Westminster | 7 | 8 | 7 | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Nissouri | 1 | 1 | 1 | .... | 1 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | London West, Village | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| North Middlesex | East Williams | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | McGillivray | 1 | 1 | 1 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Adelaide | 1 | 1 | 1 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Biddulph | 4 | 4 | 4 | .... | 1 | .. | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Ailsa Craig | 3 | 3 | 3 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Lobo | 3 | 5 | 5 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Parkhill | 4 | 5 | 5 | 1 | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Lucan | 4 | 4 | 4 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | West Williams | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amount received for Provincial Licences, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Manitoulin.. | Little Current | .... | .... | .... | .... | .... | .... | .... | 3 | 3 | .... .... | 450 00 | 450 00 | ..... | 96 74 | 94 80 | .... .... | |
| | Gore Bay | .... | .... | .... | .... | .... | .... | .. | 4 | 4 | ..... | 600 00 | 600 00 | ..... | 128 97 | 126 42 | ..... | |
| | Assignac | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 240 00 | 240 00 | 240 00 | 108 50 | 108 36 | 107 40 | 60 00 | |
| | Howland | .... | 1 | .... | .... | .... | .... | 4 | 2 | 1 | 420 00 | 95 00 | 95 00 | 145 06 | 26 20 | 28 70 | 5 00 | |
| | Gordon | .... | .... | .... | .... | .... | .... | 4 | .... | .... | 360 00 | ..... | ..... | 96 98 | ..... | ..... | ..... | |
| | Tehkummah | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 22 50 | 24 24 | 24 19 | 5 92 | .. ..... | |
| | Billings | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 24 26 | 24 18 | 23 70 | .... .... | |
| | Carnarvon | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 24 26 | 24 19 | 23 70 | .. .. .... | |
| | Unorganized Territory | .... | 1 | 1 | .... | .... | .... | 6 | 6 | 8 | 540 00 | 564 00 | 685 00 | ..... | ..... | ..... | ..... | Payable wholly to the Province, less expenses. |
| East Middlesex | London, Township | 1 | 2 | .... | .... | .... | .... | 13 | 22 | 21 | 1,232 50 | 1,795 00 | 1,837 50 | 341 45 | 505 02 | 538 56 | .... .... | |
| | Dorchester | .... | .... | .... | .... | .... | .... | 3 | 4 | 4 | 270 00 | 360 00 | 380 00 | 70 57 | 97 74 | 113 84 | ..... | |
| | Westminster | 1 | .... | .... | .... | .... | .... | 10 | 10 | 9 | 710 00 | 845 00 | 705 00 | 194 06 | 240 30 | 210 16 | .. ..... | |
| | Nissouri | .... | .... | .... | .... | .... | .... | 1 | 2 | 4 | 90 00 | 127 50 | 252 50 | 26 29 | 36 66 | 87 57 | ..... | |
| | London West, Village | .... | 2 | 1 | .... | .... | .... | 2 | 4 | 3 | 240 00 | 360 00 | 355 00 | 48 44 | 162 95 | 164 74 | 110 00 | |
| North Middlesex | East Williams | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 180 00 | 180 00 | 53 40 | 51 86 | 55 96 | ..... | |
| | McGillivray | .... | .... | 1 | .... | .... | .... | 2 | 2 | 3 | 127 50 | 127 50 | 142 50 | 40 05 | 38 90 | 48 96 | ..... | |
| | Adelaide | 1 | .... | 1 | .... | .... | .... | 3 | 2 | 3 | 132 50 | 127 50 | 132 50 | 42 30 | 38 88 | 44 30 | ..... | |
| | Biddulph | 1 | 1 | .... | .... | .... | .... | 6 | 7 | 5 | 505 00 | 607 50 | 610 00 | 185 73 | 248 42 | 257 23 | 80 00 | |
| | Ailsa Craig | 1 | .. | 1 | .... | .... | .... | 5 | 4 | 4 | 600 00 | 775 00 | 610 00 | 185 18 | 370 34 | 288 58 | 165 00 | |
| | Lobo | 1 | 1 | .... | .... | .... | .... | 6 | 6 | 5 | 400 00 | 455 00 | 490 00 | 131 28 | 131 80 | 158 56 | ..... | |
| | Parkhill | .... | .... | 1 | .... | .... | .... | 7 | 7 | 8 | 1,502 50 | 1,315 00 | 1,320 00 | 765 30 | 484 31 | 507 16 | 225 00 | |
| | Lucan | 1 | .... | 1 | .... | .... | 1 | 6 | 5 | 7 | 765 00 | 760 00 | 800 00 | 295 72 | 289 66 | 318 58 | 160 00 | |
| | West Williams | .... | .... | .... | .... | .... | .... | .. | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-91. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| West Middlesex | Ekfrid | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Strathroy | 7 | 7 | 7 | 1 | 1 | 1 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Wardsville | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Metcalfe | .... | 2 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Delaware | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Caradoc | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Glencoe | 4 | 4 | 4 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Moss | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Newbury | 2 | 2 | 2 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Monck | Wainfleet | 1 | 1 | 1 | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Canborough | 2 | 2 | .... | 1 | 1 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Caister | .... | .... | .... | 1 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Sherbrooke | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Dunnville | 6 | 6 | 6 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Gainsborough | 2 | 2 | 2 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Pelham | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Moulton | 1 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License Districts. | Municipality. | Licenses Transferred and Removed. | | | | | | Total. | | | Amount received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over statutory duties imposed by Municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1891-2. | |
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| West Middlesex | Ekfrid | 1 | .... | 1 | .... | .... | .... | 5 | 4 | 5 | 415 00 | 360 00 | 365 00 | 129 50 | 99 20 | 92 92 | ..... | |
| | Strathroy | 1 | 3 | 1 | .. | 1 | .... | 10 | 13 | 10 | 1,765 00 | 1,895 00 | 1,855 00 | 797 59 | 833 53 | 790 21 | 492 50 | |
| | Wardsville | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 300 00 | 300 00 | 300 00 | 112 68 | 109 60 | 105 50 | 60 00 | |
| | Metcalfe | .... | .... | .... | .... | .... | .... | 2 | 2 | 1 | 75 00 | 180 00 | 140 00 | 26 34 | 49 60 | 41 72 | ..... | |
| | Delaware | 1 | .... | .... | .... | .... | .... | 3 | 2 | 2 | 185 00 | 180 00 | 180 00 | 54 88 | 49 60 | 45 50 | ..... | |
| | Caradoc | 1 | .. | 1 | .... | .... | .... | 4 | 3 | 4 | 275 00 | 270 00 | 275 00 | 81 21 | 74 42 | 70 18 | ..... | |
| | Glencoe | .... | .... | .... | .... | .... | .... | 5 | 4 | 4 | 1,325 00 | 1,095 00 | 1,065 00 | 842 66 | 681 94 | 660 50 | 560 00 | |
| | Mosa | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 90 00 | 150 00 | ..... | 26 34 | 62 00 | ..... | ..... | |
| | Newbury | .... | .... | .... | .... | .... | .... | 3 | 2 | 2 | 475 00 | 300 00 | 300 00 | 194 02 | 109 60 | 105 52 | 60 00 | |
| Monk | Wainfleet | 2 | .... | .... | .... | .... | .... | 5 | 3 | 2 | 175 00 | 165 00 | 127 50 | 42 50 | 34 20 | 27 00 | ..... | |
| | Canborough | 2 | 1 | 1 | .... | .... | .... | 5 | 4 | 4 | 227 50 | 222 50 | 117 50 | 52 32 | 44 18 | 28 50 | ..... | |
| | Caistor | .... | 1 | 1 | .... | .... | .... | 1 | 3 | 3 | 37 50 | 80 00 | 80 00 | 9 81 | 18 52 | 19 50 | ..... | |
| | Sherbrooke | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 19 62 | 17 10 | 18 00 | ..... | |
| | Dunnville | 1 | 1 | 1 | .... | .... | .... | 9 | 9 | 9 | 1,407 50 | 1,377 50 | 1,377 50 | 630 29 | 602 16 | 608 97 | 472 50 | |
| | Gainsborough | .... | 1 | .... | .... | .... | .... | 3 | 4 | 3 | 217 50 | 222 50 | 217 50 | 49 04 | 44 18 | 45 00 | ..... | |
| | Pelham | .... | .. | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | Dunkin Act in force. |
| | Moulton | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 140 00 | 37 50 | 57 50 | 35 98 | 8 54 | 15 00 | ..... | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Muskoka | McLean and Ridout | 2 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Draper | .. | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Gravenhurst | 3 | 3 | 3 | 1 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 and 3B&W. | .... | .... |
| | Medora and Wood | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 and 1B&W. | 2 |
| | Bracebridge | 3 | 3 | 4 | 1 | 1 | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Huntsville | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Monck | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Morrison | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Stisted | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Stephenson | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | McAuley | 1 | .. | .. | 1 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Nipissing | North Bay | .... | .... | 6 | .... | .... | .. | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |
| | McKim | 5 | 6 | 6 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... |
| | Mattawa | 8 | 7 | 8 | .... | .... | .... | 1 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Widdifield | 6 | 8 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Springer | 2 | 3 | 4 | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Ferris | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Bonfield | 2 | 3 | 2 | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| North Norfolk | Middleton | 4 | 5 | 4 | 3 | 2 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Simcoe | 8 | 8 | 8 | .... | .... | .... | 3 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Windham | 3 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Waterford | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| South Norfolk | Walsingham, South | 4 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Woodhouse | 2 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Charlotteville | 5 | 5 | 5 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Houghton | 1 | 1 | 2 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Port Dover | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1B&W. | 1B&W. | 1B&W. |
| | Walsingham, North | 1 | 2 | 2 | 1 | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Port Rowan | .... | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by Municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Muskoka | McLean and Ridout | .... | 2 | .... | .... | .... | .. | 2 | 5 | 2 | 180 00 | 360 00 | 180 00 | 52 64 | 122 95 | 50 40 | ..... | |
| | Draper | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 37 50 | 57 50 | 110 00 | 13 16 | 33 66 | 45 20 | 20 00 | |
| | Gravenhurst | .... | 1 | .... | .... | .... | .... | 5 | 5 | 4 | 1,050 00 | 805 00 | 800 00 | 494 26 | 422 28 | 410 08 | 292 50 | |
| | Medora and Wood | .... | .... | .... | .... | .... | .... | 5 | 3 | 3 | 146 25 | 183 50 | 260 00 | 46 06 | 108 91 | 130 40 | 80 00 | |
| | Bracebridge | 2 | 1 | .... | .... | .... | .... | 7 | 6 | 5 | 777 50 | 992 50 | 910 00 | 272 28 | 376 40 | 298 98 | 110 00 | |
| | Huntsville | .... | .... | 1 | .... | .... | .... | 3 | 3 | 4 | 480 00 | 480 00 | 485 00 | 198 94 | 201 96 | 197 68 | 120 00 | |
| | Monck | .... | .... | .... | .... | .... | .... | 1 | 1 | 2 | 45 00 | 45 00 | 82 50 | 13 16 | 13 67 | 25 20 | ..... | |
| | Morrison | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 26 32 | 27 34 | 25 20 | ..... | |
| | Stisted | .... | .... | .... | .... | .... | .. | .... | 1 | .... | 50 00 | 87 50 | ..... | 21 93 | 36 44 | ..... | .... .... | |
| | Stephenson | .... | .... | .... | .... | .... | .. | 2 | 2 | 2 | 180 00 | 180 00 | 180 00 | 52 64 | 54 66 | 50 40 | ..... .... | |
| | McAuley | .... | 1 | 1 | .... | .... | .... | 2 | 3 | 3 | 127 50 | 180 00 | 80 00 | 39 48 | 75 14 | 27 29 | .... .... | |
| Nipissing | North Bay | .... | 1 | .... | .... | .... | .... | .... | 1 | 8 | ..... | 125 00 | 1,875 00 | ..... | 99 64 | 1,058 42 | 750 00 | |
| | McKim | .... | 2 | 2 | .... | .... | 1 | 6 | 10 | 11 | 1,290 00 | 1,550 83 | 1,735 00 | 941 06 | 1,128 47 | 1,253 97 | 1,000 00 | |
| | Mattawa | .... | .... | 1 | .... | .... | .... | 10 | 9 | 11 | 1,500 00 | 1,370 00 | 1,505 00 | 918 44 | 836 08 | 911 46 | 600 00 | |
| | Widdifield | .... | .... | .... | .... | .... | .... | 8 | 9 | .... | 1,172 50 | 1,350 00 | ..... | 710 99 | 792 00 | ..... | .... | |
| | Springer | .... | .... | .... | .... | .... | .... | 2 | 3 | 4 | 360 00 | 540 00 | 660 00 | 243 68 | 365 18 | 423 36 | 300 00 | |
| | Ferris | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | .... | ..... | ..... | ..... | |
| | Bonfield | .... | .... | .... | .... | .... | .... | 2 | 3 | 2 | 270 00 | 375 00 | 250 00 | 144 30 | 200 16 | 131 68 | 70 00 | |
| | *Unorganized Teeritory | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | 50 00 | ..... | .... | .... | ..... | .... .... | |
| North Norfolk | Middleton | 4 | 3 | 3 | .... | .. | .... | 11 | 10 | 10 | 536 50 | 540 00 | 487 50 | 161 43 | 158 24 | 145 25 | .... .... | |
| | Simcoe | 1 | 3 | 2 | 1 | .... | .... | 13 | 13 | 12 | 2,275 00 | 2,015 30 | 2,070 00 | 941 30 | 839 34 | 866 26 | 500 00 | |
| | Windham | 1 | 2 | 2 | .... | .... | .... | 4 | 6 | 6 | 295 00 | 370 00 | 460 00 | 83 96 | 104 08 | 143 12 | ... ..... | |
| | Waterford | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 550 00 | 500 00 | 480 00 | 222 44 | 203 30 | 195 78 | 120 00 | |
| South Norfolk | Walsingham, South | 1 | 1 | .... | .... | .... | .... | 5 | 2 | 1 | 385 00 | 95 00 | 90 00 | 80 00 | 17 76 | 20 00 | ..... | |
| | Woodhouse | .... | .... | .... | .... | .... | .... | 2 | 1 | 1 | 200 00 | 37 50 | 37 50 | 42 06 | 8 20 | 10 00 | ... .... | |
| | Charlotteville | .... | .... | 1 | .... | .... | .... | 6 | 5 | 6 | 607 50 | 470 00 | 465 00 | 117 57 | 87 42 | 100 00 | ..... | |
| | Houghton | .... | 1 | .... | .... | .... | .... | 2 | 3 | 2 | 127 50 | 132 50 | 180 00 | 30 00 | 25 97 | 40 00 | .. .... | |
| | Port Dover | .... | .... | 1 | .... | .... | .... | 5 | 5 | 6 | 822 50 | 635 00 | 650 00 | 405 00 | 194 95 | 207 50 | 122 50 | |
| | Walsingham, North | 1 | .... | .... | .... | .... | .... | 3 | 2 | 2 | 142 50 | 180 00 | 180 00 | 31 54 | 32 80 | 40 00 | ..... .... | |
| | Port Rowan | .... | 1 | .... | .... | .... | .... | .. | 3 | 2 | ..... | 245 00 | 240 00 | ..... .. | 34 17 | 40 00 | .... .... | |

*Payable wholly to the Province, less expenses.

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-91. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| 60 East Northumberland | Seymour | 2 | 2 | 2 | | | | | | | | | | | | | | | | | | |
| | Murray | 2 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Cramahe | 1 | 1 | 1 | | | | | | | | | | | | | | | | | | |
| | Percy | 2 | 2 | 2 | | | | 1 | 1 | 1 | | | | | | | | | | | | |
| | Colborne | 3 | 3 | 3 | | | | 2 | 1 | 1 | | | | | | | | | | | | |
| | Campbellford | 5 | 5 | 5 | | | | 2 | 2 | 2 | | | | | | | | | | | | |
| | Hastings | 3 | 3 | 3 | | | | 1 | 1 | 1 | | | | | 1 | | | | | 1 | 1 | 1 |
| | Brighton Village | 2 | 3 | 2 | | | | | | | | | | | | | | | | | | |
| West Northumberland | Alnwick | 2 | 2 | 2 | | | | | | | | | | | | | | | | | 1 | 1 |
| | South Monaghan | 1 | 1 | 1 | | | | | | | | | | | | | | | | 1 | 1 | 1 |
| | Haldimand | 3 | 1 | 1 | | | | | | | | | | | 1 | | | | | | | |
| | Hamilton | 5 | 6 | 6 | | | | | | | | | | | | | | | | | 1 | 1 |
| | Cobourg, town | 13 | 11 | 13 | 1 | | | 4 | 4 | 4 | | | | | 1 | | | | | 1 | 1 | 1 |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by Municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| East Northumberland | Seymour | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 180 00 | 180 00 | 45 67 | 44 46 | 43 38 | ..... | |
| | Murray | 1 | .... | .... | .... | .... | .... | 3 | 1 | 1 | 185 00 | 90 00 | 90 00 | 47 58 | 22 24 | 21 70 | ..... | |
| | Cramahe | .... | 1 | 1 | .... | .... | .... | 1 | 2 | 2 | 130 00 | 135 00 | 135 00 | 62 83 | 64 08 | 63 36 | 40 00 | |
| | Percy | 1 | .... | 1 | .... | .... | .... | 4 | 3 | 4 | 515 00 | 430 00 | 425 00 | 298 04 | 207 80 | 204 09 | 130 00 | |
| | Colborne | .... | .... | 1 | .... | .... | .... | 5 | 4 | 5 | 750 00 | 550 00 | 555 00 | 264 20 | 158 92 | 158 55 | 70 00 | |
| | Can pbellford | .... | .... | 2 | .... | .... | 1 | 7 | 7 | 10 | 1,130 00 | 1,140 00 | 1,135 00 | 443 66 | 443 02 | 437 20 | 280 00 | |
| | Hastings | .... | .... | 1 | .... | .... | .... | 5 | 6 | 6 | 790 00 | 1,125 00 | 790 00 | 309 42 | 610 22 | 302 88 | 180 00 | |
| | Brighton, Village | .... | .... | .... | .... | .... | .... | 2 | 3 | 3 | 420 00 | 490 00 | 340 00 | 225 68 | 171 52 | 117 84 | 60 00 | |
| West Northumberland | Alnwick | .... | .... | 2 | .... | .... | .... | 2 | 3 | 5 | 260 00 | 352 50 | 285 00 | 135 48 | 141 64 | 124 92 | 50 00 | |
| | South Monaghan | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 135 00 | 135 00 | 135 00 | 41 60 | 39 06 | 42 14 | ..... | |
| | Haldimand | 1 | .... | 1 | .... | .... | .... | 4 | 2 | 2 | 275 00 | 112 50 | 115 00 | 85 52 | 32 54 | 39 80 | ..... | |
| | Hamilton | 1 | .... | 1 | .... | .... | .... | 6 | 7 | 8 | 505 00 | 690 00 | 655 00 | 191 00 | 251 60 | 249 93 | 65 00 | |
| | Cobourg, Town | 2 | .... | 3 | .... | .... | .... | 21 | 17 | 20 | 5,042 50 | 4,322 50 | 4,602 00 | 2,950 40 | 2,467 18 | 2,666 80 | 1,980 00 | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc —*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891 2. | 1889-90. | 1890-1. | 1891-2. |
| North Ontario... | Uxbridge, Town | 4 | 4 | 4 | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Brock | 4 | 4 | 4 | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Mara | 4 | 4 | 6 | 1 | .. | .... | 2 | 2 | .... | .. | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| | Thorah | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Uxbridge, Township... | 3 | 3 | 4 | 2 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Scott | 2 | 3 | 3 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Rama | 2 | 1 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 B&W |
| | Cannington | 2 | 3 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Beaverton | 2 | 2 | 2 | ... | ... | ... | 2 | 2 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| South Ontario .. | Reach | 6 | 4 | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... |
| | Oshawa | 6 | 6 | 6 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Whitby, Town | 7 | 7 | 6 | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Whitby, Township | 3 | 3 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Whitby, East, Township | 1 | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Pickering | 8 | 8 | 7 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Port Perry | 4 | 4 | 3 | ... | ... | ... | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| North Ontario .. | Uxbridge Town | 1 | 3 | .... | .... | .... | .... | 6 | 8 | 5 | 1,015 00 | 1,045 00 | 1,165 00 | 428 81 | 4,447 78 | 500 52 | 250 00 | |
| | Brock | .... | .... | .... | .... | .... | .... | 5 | 5 | 5 | 440 00 | 512 50 | 462 50 | 162 46 | 205 03 | 184 70 | 65 00 | |
| | Mara | 2 | 3 | 1 | .... | .... | .... | 10 | 10 | 8 | 632 50 | 660 00 | 650 00 | 191 05 | 237 27 | 235 14 | 60 00 | |
| | Thorah | .... | .... | .. | .... | .... | .... | 1 | 1 | 1 | 110 00 | 100 00 | 120 00 | 35 54 | 36 26 | 45 46 | 10 00 | |
| | Uxbridge, Township | .... | .... | 1 | .... | .... | .... | 5 | 5 | 6 | 345 00 | 345 00 | 402 50 | 106 64 | 105 04 | 121 92 | ..... | |
| | Scott | .... | 1 | 3 | .... | .. | .... | 3 | 4 | 6 | 292 50 | 365 00 | 351 00 | 141 64 | 128 80 | 124 06 | 15 00 | |
| | Rama | 1 | .... | 1 | . . | .... | .... | 3 | 1 | 4 | 185 00 | 90 00 | 203 75 | 55 54 | 26 29 | 60 40 | ..... | |
| | Cannington | 1 | .... | 3 | .... | .. | .... | 3 | 3 | 5 | 405 00 | 690 00 | 575 00 | 215 54 | 358 18 | 290 80 | 160 00 | |
| | Beaverton | .... | 1 | 1 | .... | .... | .... | 4 | 5 | 4 | 640 00 | 645 00 | 505 00 | 266 62 | 267 23 | 210 88 | 120 00 | |
| South Ontario .. | Reach | 1 | 1 | .... | .... | .... | .... | 7 | 7 | 4 | 605 00 | 505 00 | 400 00 | 242 16 | 205 28 | 154 61 | 40 00 | |
| | Oshawa | .... | .... | .... | .... | .... | .... | 6 | 6 | 6 | 1,620 00 | 1,640 00 | 1,700 00 | 959 56 | 966 58 | 987 42 | 720 00 | |
| | Whitby, Town | 1 | 1 | .... | .... | .... | .... | 9 | 9 | 7 | 1,700 00 | 1,730 00 | 1,512 00 | 804 41 | 815 22 | 707 48 | 420 00 | |
| | Whitby, Township | .... | .... | 2 | .... | .... | .... | 3 | 3 | 5 | 390 00 | 390 00 | 400 00 | 209 84 | 208 76 | 210 74 | 120 00 | |
| | Whitby, East, Township | .... | .... | .... | .... | .... | .... | 1 | 2 | 2 | 360 00 | 360 00 | 300 00 | 204 80 | 229 04 | 156 40 | 80 00 | |
| | Pickering | 1 | ... | 3 | .... | .... | 1 | 9 | 8 | 11 | 1,065 00 | 1,040 00 | 980 00 | 572 03 | 556 72 | 513 98 | 280 00 | |
| | Port Perry | .... | 2 | 1 | .... | .... | .... | 5 | 7 | 5 | 1,130 00 | 1,010 00 | 805 00 | 614 58 | 552 90 | 437 00 | 320 00 | |

SCHEDULE C.—Comparative Statement by Municipalities, showing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Ottawa | Ottawa City | 80 | 88 | 87 | * | * | .... | 56 | 59 | 59 | 1 | 2 | 1 | .... | .... | ..... | 4 | ..... | ..... | 1 | ..... | ..... |
| North Oxford | East Nissouri | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Blandford | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | East Zorra | 3 | 4 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Embro | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | West Zorra | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Woodstock | 12 | 13 | 14 | .... | .... | .... | 3 | 3 | 2 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Blenheim | 7 | 8 | 8 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| South Oxford | Ingersoll | 7 | 9 | 10 | .... | .... | .... | 1 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tilsonburg | 4 | 4 | 4 | .... | .... | .... | 2 | 2 | 1 | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Norwich, Village | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | North Oxford | 2 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | North Norwich | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | South Norwich | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Dereham | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | West Oxford | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | East Oxford | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

*1 Beer and Wine Vessel not included.

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | Removals. | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1891-2. | |
| | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Ottawa | Ottawa City | 12 | 24 | 22 | 12 | 10 | 6 | 166 | 183 | 175 | 43,940 00 | 47,081 50 | 46,550 00 | 16,645 38 | 17,984 15 | 17,661 32 | 8,700 00 |
| North Oxford | East Nissouri | | 1 | | | | | 2 | 3 | 2 | 180 00 | 185 00 | 180 00 | 57 32 | 65 44 | 59 90 | |
| | Blandford | | 2 | | | | | 1 | 3 | 1 | 135 00 | 150 00 | 145 00 | 73 66 | 72 36 | 67 42 | 20 00 |
| | East Zorra | | | 1 | | | | 3 | 4 | 4 | 270 00 | 360 00 | 365 00 | 85 96 | 125 64 | 137 28 | |
| | Embro | | 1 | | | | | 3 | 2 | 3 | 325 00 | 515 00 | 325 00 | 139 70 | 244 92 | 142 40 | 80 00 |
| | West Zorra | | | 1 | | | | 1 | | 1 | 90 00 | 90 00 | 90 00 | 28 65 | 31 42 | 29 95 | |
| | Woodstock | 4 | 3 | 2 | | | 1 | 20 | 21 | 19 | 4,630 00 | 4,845 00 | 4,945 00 | 2,554 60 | 2,812 64 | 2,821 01 | 1,920 00 |
| | Blenheim | 4 | 2 | 4 | | | | 11 | 10 | 12 | 840 00 | 1,010 00 | 850 00 | 374 00 | 479 36 | 314 54 | 80 00 |
| South Oxford | Ingersoll | 2 | 3 | 2 | | | | 10 | 14 | 14 | 2,220 00 | 3,035 00 | 3,250 00 | 1,245 25 | 1,747 07 | 1,861 04 | 1,440 00 |
| | Tilsonburg | 1 | 1 | 4 | 1 | | | 8 | 8 | 9 | 1,670 00 | 1,692 50 | 1,440 00 | 935 98 | 978 23 | 812 70 | 600 00 |
| | Norwich Village | | | | | | | 4 | 4 | 4 | 720 00 | 720 00 | 720 00 | 837 80 | 348 46 | 344 16 | 240 00 |
| | North Oxford | 1 | | | | | | 3 | 3 | 3 | 265 00 | 390 00 | 305 00 | 130 94 | 201 35 | 151 62 | 80 00 |
| | North Norwich | | | 1 | | | | 4 | 5 | 4 | 370 00 | 365 00 | 360 00 | 101 88 | 110 72 | 104 16 | |
| | South Norwich | | 1 | | | | | 3 | 2 | 2 | 285 00 | 460 00 | 285 00 | 91 70 | 334 21 | 207 56 | 175 00 |
| | Dereham | 1 | | | | | | | | | 50 00 | | | 20 37 | | | |
| | West Oxford | | | | | | | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 24 46 | 27 12 | 26 04 | |
| | East Oxford | | | | | | | | | | | | | | | | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. 1889-90. | Tavern. Ordinary. 1890-1. | Tavern. Ordinary. 1891-2. | Tavern. Beer and Wine. 1889-90. | Tavern. Beer and Wine. 1890-1. | Tavern. Beer and Wine. 1891-2. | Shop. 1889-90. | Shop. 1890-1. | Shop. 1891-2. | Wholesale. 1889-90. | Wholesale. 1890-1. | Wholesale. 1891-2. | Extended Tavern. 1889-90. | Extended Tavern. 1890-1. | Extended Tavern. 1891-2. | Extended Shop. 1889-90. | Extended Shop. 1890-1. | Extended Shop. 1891-2. | Six Months. 1889-90. | Six Months. 1890-1. | Six Months. 1891-2. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parry Sound | Nipissing | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ... | .. .. | .... | ..... | ..... | ... |
| | McKellar | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | .... | ..... | ..... | ..... | ..... | ..... |
| | Armour | 3 | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | .. | ..... | .... | ..... | ..... | ..... | ..... | ..... |
| | Strong | 3 | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | .. .. | ..... | .... | ..... | ..... | ..... | ..... | ..... |
| | Chapman | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | .... | ..... | .... | ..... | ..... | ..... | ..... | ..... |
| | Parry Sound | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | ..... | ... | ..... | .. | ..... | 2 | ..... | ..... | .. | ..... | ..... | ..... |
| | Foley | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Himsworth, North | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Perry | 3 | 4 | 4 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Humphrey | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | 1 | 1 |
| | Machar | 1 | 1 | 1 | .. | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Sundridge | .... | 3 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Burk's Falls | .... | 2 | 2 | .... | .... | .. | .... | .... | .... | ..... | ..... | ... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ... |
| | Himsworth, South | .... | 3 | 3 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Hagerman | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | McMurrich | .. | .... | 1 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Unorganized Territory | 5 | 2 | 3 | 1 | .. | .... | .... | .... | .... | .... | .... | .. | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Peel | Brampton | 6 | 6 | 6 | 1 | 1 | 1 | 2 | 2 | 2 | ..... | ..... | ..... | ..... | .. .. | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Chinguacousy | 9 | 9 | 9 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Toronto, Township | 13 | 13 | 12 | .... | .... | .... | .... | .... | .... | ..... | ..... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | Toronto, Gore | 3 | 2 | 2 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | .... |
| | Streetsville | 2 | 2 | 2 | .... | .... | .... | 1 | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | .... | 1 | ..... | ..... | ..... | ..... |
| | Caledon | 9 | 10 | 10 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | .... | ..... | ..... | ..... | ..... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2 | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by municipal by-laws. 1891-2 | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Parry Sound.. | Nipissing | .... | .... | 1 | .... | .... | .... | 2 | 2 | 3 | 180 00 | 180 00 | 185 00 | 53 26 | 51 28 | 48 11 | ... ..... | |
| | McKellar | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 150 00 | 170 00 | 120 00 | 86 64 | 94 20 | 53 09 | 30 00 | |
| | Armour | 1 | .... | .... | .... | .... | .... | 5 | .... | .... | 275 00 | 50 00 | 50 00 | 82 14 | 21 37 | 19 24 | ..... | |
| | Strong | 1 | .... | .... | .... | .... | .... | 4 | .... | .... | 275 00 | ..... | ..... | 82 14 | ..... | ..... | ..... | |
| | Chapman | .... | .... | 1 | .... | .... | .... | 2 | 2 | 3 | 180 00 | 180 00 | 190 00 | 53 28 | 51 30 | 50 03 | ..... | |
| | Parry Sound | .... | 1 | .... | .... | .... | .... | 1 | 2 | 2 | 220 00 | 355 00 | 225 00 | 66 60 | 121 82 | 73 14 | ..... | |
| | Foley | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | 230 00 | ..... | ..... | ..... | ..... | ..... | ..... | |
| | Himsworth, North | .... | .... | 1 | .... | .. | .... | 2 | 2 | 3 | 270 00 | 230 00 | 235 00 | 103 26 | 101 30 | 98 10 | 50 00 | |
| | Perry | .... | 1 | 2 | .. | .... | .... | 3 | 5 | 6 | 225 00 | 365 00 | 375 00 | 79 90 | 104 72 | 100 14 | ..... ... | |
| | Humphrey | .... | .... | .... | .... | .... | .... | 3 | 3 | 2 | 512 50 | 225 00 | 135 00 | 66 58 | 64 12 | 34 64 | ..... | |
| | Machar | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 26 64 | 25 64 | 23 08 | ..... | |
| | Sundridge | .... | 2 | 2 | .... | 1 | .... | .... | 6 | 5 | ..... | 375 00 | 370 00 | ..... | 83 36 | 73 14 | ..... | |
| | Burk's Falls | .... | 2 | .... | .... | .. | .... | .... | 2 | 2 | ..... | 240 00 | 240 00 | ..... | 51 28 | 46 18 | ..... | |
| | Himsworth, South | .... | 2 | 2 | .... | .... | .... | .... | 5 | 5 | ..... | 280 00 | 280 00 | ..... | 81 24 | 73 14 | ..... | |
| | Hagerman | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | ..... | 90 00 | 90 00 | ..... | 25 64 | 23 08 | ..... | |
| | McMurrich | .... | .... | .... | .... | .... | .... | ..... | ..... | 1 | ..... | ..... | 90 00 | .... .. | ..... | ..... | ..... | |
| | Unorganized Territory | .... | .... | 1 | 1 | .... | .... | 7 | 2 | 4 | 612 50 | 4 20 00 | 625 00 | ..... . | ..... | 23 08 | ..... | Payable to Province, less proportion of expenses. |
| Peel . .... | Brampton | 1 | .... | .... | .. | .. | .... | 10 | 9 | 9 | 1,512 50 | 1,502 50 | 1,502 50 | 593 62 | 566 68 | 587 52 | 225 00 | |
| | Chinguacousy | .... | 1 | 1 | .. | .... | .... | 9 | 10 | 10 | 810 00 | 815 00 | 855 00 | 880 36 | 270 00 | 305 55 | ..... | |
| | Toronto, Township | 3 | 3 | 2 | .... | .... | .... | 17 | 16 | 14 | 1,320 50 | 1,198 00 | 1,185 00 | 485 46 | 403 00 | 409 73 | 60 00 | |
| | Toronto, Gore | 1 | .... | 1 | .... | .... | .... | 4 | 3 | 3 | 295 00 | 270 00 | 185 00 | 106 44 | 90 00 | 63 98 | ..... | |
| | Streetsville | .... | 1 | 2 | .... | .... | .... | 3 | 4 | 5 | 470 00 | 445 00 | 470 00 | 179 42 | 160 08 | 209 56 | 100 00 | |
| | Caledon | 2 | 3 | 1 | .... | .. | .... | 12 | 13 | 11 | 925 00 | 965 00 | 955 00 | 337 47 | 312 54 | 357 40 | ..... | |

SCHEDULE O.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| North Perth .... | Mornington | 12 | 12 | 12 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Ellice | 5 | 4 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Wallace | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Elma | 1 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Listowel | 8 | 8 | 3 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Stratford | 20 | 20 | 21 | 1 | 1 | .... | 4 | 4 | 4 | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | .... | .... | .... |
| | North Easthope | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Milverton | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| South Perth ... | South Easthope | 6 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Fullarton | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Mitchell | 6 | 6 | 6 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Hibbert | 3 | 3 | 2 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Downie | 5 | 5 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | St. Mary's | 8 | 8 | 8 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Blanshard | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Logan | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. | | | | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1 | 1891-2. | 1891-2. | |
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| North Perth | Mornington | .... | 1 | 2 | .... | .... | .... | 12 | 13 | 14 | 1,130 00 | 1,085 00 | 1,090 00 | 427 24 | 409 66 | 421 18 | ..... | |
| | Ellice | .... | .... | .... | .... | .... | .... | 5 | 4 | 5 | 520 00 | 360 00 | 460 00 | 205 32 | 135 64 | 177 34 | ..... | |
| | Wallace | 1 | 1 | .... | .... | .... | .... | 3 | 3 | 2 | 185 00 | 185 00 | 180 00 | 69 36 | 70 62 | 38 64 | ..... | |
| | Elma | .... | .... | .... | .... | .... | .... | 4 | 4 | 4 | 410 00 | 360 00 | 292 50 | 160 92 | 135 62 | 111 56 | ..... | |
| | Listowel | 2 | 7 | 1 | .... | .... | .... | 11 | 16 | 10 | 2,120 00 | 2,215 00 | 1,770 00 | 1,116 10 | 1,178 33 | 933 98 | 565 00 | |
| | Stratford | 3 | 3 | 2 | .... | 1 | .... | 28 | 29 | 27 | 6,455 00 | 6,720 00 | 6,550 00 | 2,889 96 | 3,065 22 | 2,955 24 | 1,500 00 | |
| | North Easthope | .... | .... | .... | .... | .... | .... | 4 | 4 | 4 | 360 00 | 360 00 | 360 00 | 133 16 | 135 62 | 137 30 | ..... | |
| | Milverton | .... | 1 | .... | .... | .... | .... | 3 | 4 | 3 | 360 00 | 365 00 | 360 00 | 99 90 | 104 52 | 102 98 | ..... | |
| South Perth | South Easthope | .... | 1 | 1 | .... | .... | .... | 6 | 7 | 7 | 540 00 | 575 00 | 545 00 | 188 05 | 202 84 | 181 90 | ..... | |
| | Fullarton | 1 | 2 | .... | .... | .... | .... | 4 | 5 | 3 | 295 00 | 345 00 | 270 00 | 107 08 | 130 94 | 90 00 | ..... | |
| | Mitchell | 2 | 1 | 1 | .... | .... | .... | 9 | 8 | 8 | 1,680 00 | 1,650 00 | 1,590 00 | 872 38 | 851 10 | 811 56 | 525 00 | |
| | Hibbert | 1 | .... | .... | .... | .... | .... | 5 | 4 | 3 | 365 00 | 380 00 | 270 00 | 127 98 | 133 50 | 90 00 | ..... | |
| | Downie | .... | 2 | 1 | .... | .... | .... | 5 | 7 | 5 | 460 00 | 460 00 | 515 00 | 161 94 | 159 18 | 195 41 | ..... | |
| | St. Mary's | 4 | 3 | 2 | .... | .... | .... | 14 | 13 | 12 | 2,222 50 | 2,215 00 | 2,130 00 | 1,081 88 | 1,069 84 | 1,013 66 | 600 00 | |
| | Blanshard | .... | .... | .... | .... | .... | .... | 3 | 3 | 2 | 320 00 | 202 50 | 180 00 | 120 14 | 69 32 | 60 00 | ..... | |
| | Logan | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 230 00 | 180 00 | 62 68 | 87 28 | 60 00 | ..... | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| East Peterborough.. | Asphodel | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Dummer | 1 | 1 | 1 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Otonabee | 2 | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Burleigh, Anstruther and Chandos | 3 | 2 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Norwood | 3 | 3 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Belmont and Methuen | 3 | 2 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Douro | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| West Peterborough.. | Smith | 3 | 3 | 3 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1 | 1 | 1 |
| | Lakefield | 3 | 3 | 4 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Peterborough | 20 | 21 | 21 | 1* | ... | 1 | 8 | 9 | 7 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | North Monaghan | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Ennismore | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Ashburnham | 2 | 2 | ... | 1 | 1 | ... | 2 | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| | Ashburnham | ... | ... | 2 | ... | ... | 1 | ... | ... | 2 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. | | | | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by Municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1891-2. | |
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| East Peterborough | Asphodel | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 16 64 | 16 83 | 14 56 | .... | |
| | Dummer | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 16 64 | 16 82 | 14 56 | .... | |
| | Otonabee | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 180 00 | 180 00 | 33 28 | 33 66 | 29 12 | .... | |
| | Burleigh, Anstruther and Chandos | .... | 1 | 1 | .... | .... | .... | 3 | 3 | 4 | 270 00 | 185 00 | 315 00 | 49 92 | 35 06 | 54 63 | .... | |
| | Norwood | .... | .... | 3 | .... | .... | .... | 3 | 3 | 6 | 780 00 | 780 00 | 855 00 | 469 92 | 470 50 | 481 90 | 420 00 | |
| | Belmont and Methuen | 2 | .... | .... | .... | .... | .... | 5 | 2 | 3 | 700 00 | 420 00 | 590 00 | 472 70 | 273 66 | 348 56 | 300 00 | |
| | Douro | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | |
| West Peterborough | Smith | .... | .... | .... | .... | .... | 1 | 4 | 4 | 5 | 315 00 | 315 00 | 320 00 | 108 52 | 112 80 | 115 10 | .... | |
| | Lakefield | .... | 1 | .... | .... | .... | .... | 3 | 4 | 4 | 780 00 | 605 00 | 800 00 | 513 02 | 339 36 | 448 48 | 320 00 | |
| | Peterborough | 2 | 8 | .... | .... | .... | .... | 31 | 38 | 29 | 7,682 50 | 8,366 00 | 8,087 50 | 4,429 19 | 4,978 04 | 4,906 43 | 3,520 00 | |
| | North Monaghan | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | |
| | Ennismore | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | |
| | Ashburnham | 1 | 2 | .... | .... | .... | .... | 6 | 7 | .... | 1,310 00 | 990 00 | .... | 798 44 | 493 98 | .... | .... | |
| | Ashburnham | .... | .... | 1 | .... | .... | .... | .... | .... | 6 | .... | .... | 956 50 | .... | .... | 561 12 | 400 00 | |

*Not including one beer and wine, vessel.

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. 1889-90. | Tavern. Ordinary. 1890-1. | Tavern. Ordinary. 1891-2. | Tavern. Beer and Wine. 1889-90. | Tavern. Beer and Wine. 1890-1. | Tavern. Beer and Wine. 1891-2. | Shop. 1889-90. | Shop. 1890-1. | Shop. 1891-2. | Wholesale. 1889-90. | Wholesale. 1890-1. | Wholesale. 1891-2. | Extended Tavern. 1889-90. | Extended Tavern. 1890-1. | Extended Tavern. 1891-2. | Extended Shop. 1889-90. | Extended Shop. 1890-1. | Extended Shop. 1891-2. | Six Months. 1889-90. | Six Months. 1890-1. | Six Months. 1891-2. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Prescott | South Plantagenet | 7 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | East Hawkesbury | 4 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... |
| | Longueuil | 2 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | North Plantagenet | 12 | 12 | 8 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Caledonia | 2 | 2 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 2 | 1 |
| | Alfred | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | West Hawkesbury | 4 | 5 | 5 | .... | .... | .... | 1 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Hawkesbury, Village | 3 | 3 | 3 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | L'Orignal | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Prince Edward | Picton | 5* | 6 | 6 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | South Marysburgh | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Wellington | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Sophiasburgh | 2 | 1 | 1 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Hillier | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Ameliasburgh | 3 | 4 | 4 | .... | 1 | 1 | .. | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Hallowell | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .. | .. | .... |
| | North Marysburgh | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Rainy River | Rat Portage | 8 | 8 | 7 | .... | .... | .... | 2 | 2 | 2 | 1 Ext | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... |
| | Keewatin | 2 | 2 | 2 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Unorganized Districts | 2 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| North Renfrew | Bromley | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Pembroke | 10 | 10 | 11 | .... | .... | .... | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Ross | 3 | 3 | 3 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Westmeath | 4 | 4 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Wilberforce | 2 | 2 | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... |
| | Head, Maria and Clara | 1 | 2 | 2 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Petawawa | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Rolph, Buch'an & Wylie | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE O.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by Municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Prescott | South Plantagenet | 2 | 1 | 1 | .... | .... | .... | 9 | 7 | 7 | 690 00 | 545 00 | 565 00 | 252 04 | 191 76 | 203 92 | ..... | |
| | East Hawkesbury | .... | .... | .... | .... | .... | .... | 6 | 6 | 6 | 612 50 | 600 00 | 600 00 | 325 54 | 249 12 | 250 68 | 60 00 | |
| | Longueuil | .... | .... | .... | .... | .... | .... | 2 | 1 | 1 | 180 00 | 110 00 | 90 00 | 63 00 | 42 04 | 31 78 | ..... | |
| | North Plantagenet | 2 | .... | .... | .... | .... | .... | 14 | 12 | 8 | 1,193 00 | 1,100 00 | 740 00 | 437 40 | 388 78 | 264 84 | ..... | |
| | Caledonia | .... | 1 | .... | .... | .... | .... | 3 | 5 | 4 | 265 00 | 275 00 | 315 00 | 99 76 | 97 20 | 111 23 | .... .. | |
| | Alfred | 1 | 1 | 1 | .... | .... | .... | 6 | 6 | 6 | 475 00 | 455 00 | 455 00 | 170 64 | 160 24 | 161 55 | ..... | |
| | West Hawkesbury | ... | 3 | 1 | .... | .... | .. | 5 | 10 | 8 | 660 00 | 925 00 | 915 00 | 362 78 | 508 53 | 505 12 | 280 00 | |
| | Hawkesbury, Village | 2 | 2 | .... | .... | .... | .. | 5 | 5 | 4 | 390 00 | 370 00 | 480 00 | 110 26 | 99 82 | 127 12 | ..... | |
| | L'Orignal | 1 | .... | .... | .... | .... | .... | 4 | 3 | 3 | 395 00 | 390 00 | 390 00 | 127 14 | 124 56 | 125 34 | 30 00 | |
| Prince Edward | Picton | 3 | 3 | 1 | .... | .... | 1 | 10 | 11 | 10 | 2,355 00 | 2,275 00 | 2,250 00 | 1,076 99 | 1,229 46 | 1,213 08 | 960 00 | |
| | South Marysburgh | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 110 00 | 110 00 | 110 00 | 41 06 | 41 42 | 40 80 | 20 00 | |
| | Wellington | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 350 00 | 380 00 | 370 00 | 152 12 | 163 54 | 158 54 | 110 00 | |
| | Sophiasburg | ... | .... | .... | .... | .... | .... | 3 | 2 | 2 | 275 50 | 127 50 | 127 50 | 66 72 | 32 12 | 31 20 | ..... | |
| | Hillier | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 180 00 | 180 00 | 42 13 | 42 84 | 41 60 | ..... | |
| | Ameliasburgh | .... | 4 | 4 | .... | .... | .... | 4 | 10 | 10 | 385 00 | 462 50 | 462 50 | 98 30 | 114 18 | 110 92 | ..... | |
| | Hallowell | .... | .... | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | .... .. | ..... | ... ..... | |
| | North Marysburgh | .... | .... | .... | .... | .... | .... | .... | .... | .... | 50 00 | ..... | ..... | 17 56 | ..... | ..... | ..... | |
| Rainy River | Rat Portage | 2 | 1 | .... | .... | .. | .... | 13 | 11 | 11 | 2,072 50 | 3,005 00 | *2,940 00 | 1,366 84 | 1,969 70 | 1,918 69 | 1,995 00 | |
| | Keewatin | 1 | .... | 1 | .... | .... | .... | 4 | 3 | 4 | 605 00 | 600 00 | 605 00 | 406 24 | 395 35 | 401 80 | 330 00 | |
| | Unorganized Districts † | ... | .... | .... | .... | .... | .... | 2 | 1 | 2 | 180 00 | 140 00 | 180 00 | ..... | ..... | ..... | ..... | |
| North Renfrew | Bromley | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 240 00 | 240 00 | 240 00 | 115 04 | 117 98 | 117 50 | 60 00 | |
| | Pembroke | .... | 1 | ... | .... | .... | .... | 13 | 14 | 14 | 2,600 00 | 2,665 00 | 2,890 00 | 1,127 00 | 1,183 99 | 1,279 80 | 700 00 | |
| | Ross | 1 | .... | .... | .... | .... | .... | 5 | 4 | 4 | 565 00 | 630 00 | 560 00 | 312 38 | 349 82 | 315 00 | 200 00 | |
| | Westmeath | .... | .... | .... | .... | .... | .... | 4 | 4 | 3 | 470 00 | 400 00 | 300 00 | 214 65 | 155 98 | 116 26 | 30 00 | |
| | Wilberforce | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 200 00 | 220 00 | 55 04 | 67 65 | 76 68 | ..... | |
| | Head, Maria and Clara | ... | ... | .... | .... | .... | .... | 2 | 3 | 2 | 180 00 | 320 00 | 180 00 | 55 03 | 111 16 | 57 50 | ..... | |
| | Petawawa | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 110 00 | 27 52 | 29 00 | 38 33 | ... .... | |
| | Rolph, Buch'an & Wylie | .... | .... | .... | .... | .... | .... | .. | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | |

*Two Vessel Licenses for Great Lakes, issued at Picton. †Payable wholly to the Province less expenses.

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| South Renfrew | Eganville | .... | .... | 3 | .. | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | McNab | 4 | 5 | 3 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Renfrew | 6 | 6 | 6 | .... | .... | .... | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Grattan | 4 | 5 | .... | .... | .... | .... | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Brougham | 1 | 1 | 1 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Brudenell and Lyndoch. | 3 | 2 | 2 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Arnprior | 7 | 7 | 7 | .... | .... | .... | 2 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Radcliffe and Raglan | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Griffith & Matawatchan | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Bagot and Blithfield | 4 | 4 | 3 | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Admaston | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Jones | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Hagarty | 1 | 1 | 1 | .. | .... | .... | .... | .... | .... | .... | .... | .... | .. | .... | .... | .... | .... | .... | .... | .... | .... |
| | Sebastopol | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Horton | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Russell | Cambridge | 7 | 7 | 9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Russell | 7 | 8 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Clarence | 7 | 7 | 9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Gloucester | 11 | 11 | 12 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Cumberland | 7 | 7 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Osgoode | 7 | 7 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Rockland | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Casselman | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| St. Catharines, City | | 23 | 23 | 22 | 3 | 3 | 4 | 6 | 5 | 4 | .... | .... | .... | .... | .... | .... | 1 | .... | .... | 1 | 1 | 1 |
| Centre Simcoe | Barrie | 11 | 10 | 11 | .... | .... | .... | 3 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Sunnidale | 3 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Vespra | 2 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| | Floss | 4 | 4 | 3 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Young | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tiny | 2 | 2 | 2 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District | Municipality. | Licenses Transferred and Removed. | | | | | | Total. | | | Amounts received for Provincial Licences, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1891-2. | |
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| South Renfrew | Eganville | | | 1 | | | | | | 6 | | | 870 00 | | | 312 55 | 125 00 | |
| | McNab | 1 | 2 | 3 | | | | 6 | 7 | 6 | 492 50 | 510 00 | 315 00 | 200 14 | 196 02 | 112 18 | 30 00 | |
| | Renfrew | 1 | 1 | 1 | | | | 10 | 10 | 10 | 1,425 00 | 1,359 00 | 1,805 00 | 563 16 | 528 60 | 845 58 | 540 00 | |
| | Grattan | 2 | | | | | | 9 | 8 | | 665 00 | 1,130 00 | | 196 88 | 419 22 | | | |
| | Brougham | | | | | | | 2 | 1 | 1 | 310 00 | 90 00 | 90 00 | 107 57 | 28 26 | 25 28 | | |
| | Brudenell and Lyndoch | 1 | | | | | | 5 | 3 | 3 | 365 00 | 270 00 | 270 00 | 97 45 | 84 80 | 75 86 | | |
| | Arnprior | 1 | 3 | 2 | 1 | 2 | | 11 | 15 | 11 | 1,920 00 | 2,245 00 | 1,915 00 | 1,101 08 | 1,198 02 | 996 14 | 720 00 | |
| | Radcliffe and Raglan | | | | | | | | | | | | | | | | | |
| | Griffith & Matawatchan | | | | | | | | | | 50 00 | | | 23 84 | | | | |
| | Bagot and Blithfield | 2 | | | | | | 7 | 6 | 3 | 570 00 | 527 50 | 280 00 | 200 20 | 177 80 | 80 08 | | |
| | Admaston | | | | | | | 1 | 1 | 1 | 100 00 | 100 00 | 100 00 | 34 74 | 38 26 | 35 28 | 10 00 | |
| | Jones | | | | | | | | | | | | | | | | | |
| | Hagarty | | | | | | | 1 | 1 | 1 | 90 00 | 140 00 | 130 00 | 16 91 | 51 82 | 42 14 | | |
| | Sebastopol | | | | | | | | | | | 50 00 | 20 00 | | 23 56 | 8 43 | | |
| | Horton | | | | | | | | | | | 50 00 | 100 00 | | 23 56 | 42 14 | | |
| Russell | Cambridge | 3 | 1 | 3 | | 1 | 1 | 10 | 9 | 12 | 645 00 | 700 00 | 865 00 | 226 88 | 255 34 | 306 76 | | |
| | Russell | 1 | 3 | 1 | | | | 8 | 11 | 6 | 635 00 | 755 00 | 495 00 | 221 66 | 268 37 | 177 86 | | |
| | Clarence | | 5 | | | | | 7 | 12 | 9 | 630 00 | 659 00 | 830 00 | 219 06 | 233 98 | 288 71 | | |
| | Gloucester | 2 | 3 | 1 | | | | 13 | 14 | 13 | 1,000 00 | 1,135 00 | 1,205 00 | 349 44 | 419 50 | 435 64 | | |
| | Cumberland | 1 | 1 | | | | | 8 | 8 | 6 | 775 00 | 665 00 | 560 00 | 361 65 | 237 10 | 195 90 | | |
| | Osgoode | | 1 | | | | | 7 | 8 | 6 | 815 00 | 970 00 | 710 00 | 399 26 | 479 84 | 345 90 | 150 00 | |
| | Rockland | | | | | | | 2 | 2 | 2 | 240 00 | 410 00 | 390 00 | 62 58 | 199 02 | 187 64 | 100 00 | |
| | Casselman | | 2 | 1 | | | | 4 | 6 | 5 | 480 00 | 490 00 | 485 00 | 125 18 | 130 28 | 126 31 | | |
| St. Catharines, City | | 2 | 6 | 4 | 1 | 1 | | 37 | 39 | 35 | 6,761 25 | 6,492 50 | 6,137 50 | 2,194 71 | 2,073 61 | 1,953 82 | 457 50 | |
| Centre Simcoe | Barrie | 7 | 2 | 7 | | | 1 | 21 | 13 | 20 | 3,565 00 | 2,990 00 | 3,070 00 | 1,856 94 | 1,580 73 | 1,591 44 | 1,200 00 | |
| | Sunnidale | | | | | | | 4 | 4 | 3 | 455 00 | 420 00 | 300 00 | 224 00 | 183 21 | 132 00 | 75 00 | |
| | Vespra | | | 3 | | | | 3 | 3 | 6 | 225 00 | 270 00 | 285 00 | 60 00 | 67 69 | 74 08 | | |
| | Floss | | | | | | | 5 | 5 | 4 | 500 00 | 550 00 | 410 00 | 124 51 | 128 68 | 110 21 | | |
| | Young | | | | | | | | | | | | | | | | | |
| | Tiny | 1 | | | | | | 3 | 3 | 3 | 185 00 | 270 00 | 270 00 | 50 00 | 68 23 | 68 40 | | |

SCHEDULE C—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| East Simcoe | Orillia and Matchedash | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Oro | 3 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tay | 2 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Medonte | 8 | 9 | 9 | .... | .... | .... | 1 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Penetanguishene | 4 | 4 | 4 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Orillia, Town | 8 | 8 | 8 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Midland | 5 | 5 | 4 | .... | .... | .... | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| West Simcoe | Essa | 8 | 7 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Nottawasaga | 9 | 6 | 5 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Stayner | 4 | 5 | 4 | .... | .... | .... | 1 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Collingwood, Town | 9 | 9 | 9 | .... | .... | .... | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Tossorontio | 4 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... |
| | Alliston | 5 | 6 | 6 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Creemore | .... | 3 | 3 | .... | .... | .... | .... | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Stormont | Osnabruck | 11 | 13 | 10 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Finch | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Roxborough | 9 | 7 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| Thunder Bay | Neebing | 8 | 11 | 13 | .... | .... | .... | 3 | 3 | 3 | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | 1 | 3&1 |
| | Port Arthur | 15 | 14 | 13 | .... | .... | .... | 4 | 3 | 3 | .... | .... | .... | .... | 2 | 1 | .... | .... | .... | 1 | 1 | n&w |
| | Unorganized Territory | 10 | 9 | 8 | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. | | | | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by Municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1891-2. | |
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| East Simcoe | Orillia and Matchedash | .... | .... | 1 | .... | .... | .... | 2 | 2 | 3 | 280 00 | 180 00 | 185 00 | 108 50 | 59 34 | 62 08 | ..... | .... |
| | Oro | .... | 1 | .... | .... | .... | .... | 4 | 7 | 4 | 295 00 | 290 00 | 220 00 | 101 10 | 98 88 | 76 99 | ..... | .... |
| | Tay | .... | .... | .... | .... | .... | .... | 3 | 1 | 1 | 325 00 | 130 00 | 130 00 | 191 00 | 69 66 | 69 80 | 40 00 | |
| | Medonte | .... | 1 | 3 | 1 | .... | .... | 14 | 14 | 14 | 885 00 | 1,120 47 | 1,030 00 | 303 31 | 390 84 | 347 70 | ..... | .... |
| | Penetanguishene | .... | .... | .... | .... | .... | .... | 6 | 6 | 6 | 1,485 00 | 1,505 00 | 1,485 00 | 876 99 | 887 45 | 878 56 | 660 00 | |
| | Orillia, Town | .... | 3 | .... | .... | .... | .... | 10 | 12 | 12 | 2,575 00 | 2,455 00 | 2,545 00 | 1,506 60 | 1,448 36 | 1,494 75 | 1,080 00 | |
| | Midland | .... | 2 | 1 | .... | 1 | .... | 9 | 9 | 6 | 1,500 00 | 1,450 00 | 1,275 00 | 836 74 | 671 84 | 711 10 | 500 00 | |
| West Simcoe | Essa | 2 | 3 | 1 | .... | .... | .... | 10 | 10 | 8 | 1,030 00 | 855 00 | 775 00 | 531 42 | 438 90 | 401 53 | 187 50 | |
| | Nottawasaga | 3 | 1 | 2 | .... | .... | .... | 13 | 7 | 7 | 1,115 00 | 715 00 | 580 00 | 525 88 | 338 38 | 276 58 | 100 00 | |
| | Stayner | .... | .... | .... | .... | .... | .... | 5 | 5 | 7 | 750 00 | 750 00 | 700 00 | 211 94 | 210 50 | 219 36 | ..... | .... |
| | Collingwood, Town | .... | 1 | .... | .... | .... | .... | 12 | 13 | 12 | 3,290 00 | 3,245 00 | 3,240 00 | 1,975 16 | 1,947 80 | 1,953 64 | 1,440 00 | |
| | Tossorontio | .... | 1 | .... | .... | .... | .... | 5 | 4 | 4 | 365 00 | 335 00 | 370 00 | 129 81 | 157 34 | 133 76 | ..... | .... |
| | Alliston | .... | 1 | .... | .... | .... | .... | 9 | 8 | 5 | 1,347 75 | 1,350 00 | 900 00 | 602 45 | 590 47 | 317 52 | 50 00 | |
| | Creemore | .... | .... | 2 | .... | .... | .... | .... | 6 | 4 | ..... | 530 00 | 520 00 | ..... | 171 56 | 168 42 | 40 00 | |
| Stormont | Osnabruck | 1 | 2 | .... | .... | .... | .... | 13 | 15 | 11 | 1,325 00 | 1,310 00 | 1,281 25 | 534 16 | 418 30 | 584 39 | 358 75 | |
| | Finch | 2 | .... | .... | .... | .... | .... | 8 | 6 | 6 | 610 00 | 600 00 | 600 00 | 210 10 | 191 39 | 192 00 | 60 00 | |
| | Roxborough | 1 | 3 | .... | .... | 1 | .... | 10 | 11 | 5 | 1,595 00 | 1,230 00 | 695 00 | 965 47 | 737 87 | 310 66 | 175 00 | |
| Thunder Bay | Neebing | 2 | 3 | 1 | 1 | 1 | 2 | 14 | 21 | 19 | 2,385 00 | 3,090 00 | 3,295 00 | 1,686 61 | 2,100 33 | 2,309 77 | 1,730 00 | |
| | Port Arthur | .... | 1 | .... | .... | .... | .... | 19 | 21 | 21 | 5,220 00 | 4,965 00 | 4,987 50 | 3,104 42 | 2,978 46 | 3,037 93 | 2,240 00 | |
| | Unorganized Territory* | .... | .... | 3 | .... | .... | .... | 10 | 10 | 13 | 900 00 | 887 50 | 775 00 | ..... | ..... | ..... | ..... | |

* Payable wholly to the Province less expenses.

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. 1889-90. | Tavern. Ordinary. 1890-1. | Tavern. Ordinary. 1891-2. | Tavern. Beer and Wine. 1889-90. | Tavern. Beer and Wine. 1890-1. | Tavern. Beer and Wine. 1891-2. | Shop. 1889-90. | Shop. 1890-1. | Shop. 1891-2. | Wholesale. 1889-90. | Wholesale. 1890-1. | Wholesale. 1891-2. | Extended Tavern. 1889-90. | Extended Tavern. 1890-1. | Extended Tavern. 1891-2. | Extended Shop. 1889-90. | Extended Shop. 1890-1. | Extended Shop. 1891-2. | Six Months. 1889-90. | Six Months. 1890-1. | Six Months. 1891-2. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Toronto | Toronto, City | 152* | 150 | 150 | .... | .... | .... | 50 | 50 | 50 | 14 | 11 | 10 | 2 | 2 | 2 | 6 | 1 | .... | 1 | 1 | .... |
| East Victoria | Omemee | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Fenelon Falls | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Fenelon, Township | 4 | 4 | 3 | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Bobcaygeon | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Somerville | 3 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Bexley | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Digby | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Digby | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| West Victoria | Lindsay | 14 | 11 | 14 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | 3 | .... | .... | .... | .... | .... | .... | .... |
| | Woodville | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Eldon | 6 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Mariposa | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Toronto | Toronto, City | 34 | 39 | 30 | 15 | 6 | 4 | 277 | 260 | 247 | 78,230 00 | 75,442 50 | 77,060 00 | 33436 98 | 31569 56 | 32445 25 | 20,050 00 | |
| East Victoria | Omemee | .... | 2 | ... | 1 | .... | .... | 4 | 5 | 3 | 580 00 | 612 50 | 555 00 | 289 32 | 305 64 | 279 04 | 195 00 | |
| | Fenelon Falls | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 640 00 | 665 00 | 600 00 | 341 22 | 354 13 | 324 05 | 240 00 | |
| | Fenelon, Township | 3 | 3 | 1 | .... | .... | .... | 8 | 8 | 6 | 490 00 | 420 00 | 427 50 | 163 34 | 132 76 | 147 06 | ..... | |
| | Bobcaygeon | 1 | 1 | .... | 1 | .... | .... | 5 | 5 | 3 | 580 00 | 717 50 | 598 00 | 297 41 | 346 24 | 307 12 | 210 00 | |
| | Somerville | 1 | .... | .... | 1 | .... | .... | 5 | 4 | 4 | 330 00 | 424 00 | 480 00 | 126 62 | 162 98 | 189 40 | 40 00 | |
| | Bexley | 1 | .... | .... | .... | .... | .... | 3 | 2 | 2 | 185 00 | 180 00 | 220 00 | 57 50 | 55 90 | 74 70 | ..... | |
| | Digby | .... | .... | .... | .... | .... | .... | 1 | 1 | .... | 90 00 | 90 00 | ..... | 25 32 | 25 62 | ..... | ..... | |
| | Digby | .... | .... | .... | .... | .... | .... | .... | .... | 1 | ..... | ..... | 90 00 | ..... | ..... | 28 02 | ..... | |
| West Victoria | Lindsay | 5 | .... | 4 | 1 | 1 | 1 | 22 | 17 | 21 | 4,500 00 | 3,827 50 | 4,415 00 | 2,535 74 | 2,170 32 | 2,537 08 | 1,920 00 | |
| | Woodville | 1 | 1 | 2 | .... | .... | .... | 4 | 4 | 5 | 387 50 | 365 00 | 510 00 | 87 30 | 79 02 | 197 72 | 90 00 | |
| | Eldon | 2 | .... | 1 | .... | .... | .... | 8 | 6 | 7 | 758 00 | 700 00 | 645 00 | 243 76 | 261 53 | 241 76 | 60 00 | |
| | Mariposa | .... | 2 | ... | .... | .... | .... | 4 | 6 | 4 | 500 00 | 520 00 | 540 00 | 241 22 | 251 06 | 265 65 | 140 00 | |

* Not including 1 Vessel License.

SCHEDULE C.—Comparative Statements by Municipalities, shewing the number of Provincial licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| North Waterloo. | Waterloo, Tp., N. part. | 7 | 7 | 7 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Woolwich | 6 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Wellesley | 14 | 14 | 14 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Berlin | 9 | 9 | 8 | .... | .... | 1 | 2 | 2 | 2 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Waterloo, Town | 7 | 7 | 7 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Elmira | 4 | 4 | 4 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| South Waterloo. | Galt | 9 | 9 | 9 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Preston | 5 | 6 | 6 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Wilmot | 14 | 14 | 14 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Waterloo, Tp., S. part. | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Hespeler | 3 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | North Dumfries | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | New Hamburg | 4 | 4 | 4 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Ayr, Village | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. | | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | | 1891-2. | |
| | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| North Waterloo. | Waterloo, Tp., N. part. | .... | 1 | 2 | .... | .... | .... | 7 | 655 00 | 690 00 | 702 00 | 242 24 | 263 82 | ..... | ..... | |
| | Woolwich | 2 | 1 | 2 | .... | .... | .... | 8 | 730 00 | 575 00 | 570 00 | 299 42 | 217 08 | ..... | ..... | |
| | Wellesley | 1 | 3 | .... | .... | .... | .... | 16 | 1,365 00 | 1,350 00 | 1,483 00 | 498 10 | 494 66 | ..... | ..... | |
| | Berlin | .... | .... | 2 | .... | .... | 1 | 12 | 2,600 00 | 2,567 50 | 2,489 00 | 1,137 92 | 1,154 54 | ..... | 550 00 | |
| | Waterloo, Town | .... | .... | 2 | .... | .... | .... | 8 | 1,345 00 | 1,423 00 | 1,386 00 | 491 11 | 537 35 | ..... | 140 00 | |
| | Elmira | .... | 1 | 2 | .... | .... | .... | 6 | 600 00 | 610 00 | 645 00 | 163 31 | 170 38 | ..... | ..... | |
| South Waterloo. | Galt | .... | .... | 1 | .... | .... | .... | 11 | 2,970 00 | 2,975 00 | 2,970 00 | 1,788 76 | 1,791 85 | 1,390 00 | | |
| | Preston | .... | .... | .... | .... | .... | .... | 6 | 1,000 00 | 1,010 00 | 840 00 | 374 38 | 379 95 | 140 00 | | |
| | Wilmot | .... | 1 | .... | .... | .... | .... | 14 | 1,265 00 | 1,350 00 | 1,260 00 | 449 22 | 495 90 | ..... | | |
| | Waterloo, Tp., S. part. | .... | .... | .... | .... | .... | .... | 5 | 490 00 | 455 00 | 450 00 | 160 44 | 162 62 | ..... | | |
| | Hespeler | .... | .... | .... | .... | .... | .... | 3 | 385 00 | 270 00 | 376 00 | 104 82 | 109 20 | 72 00 | | |
| | North Dumfries | .... | .... | .... | .... | .... | .... | 2 | 220 00 | 220 00 | 220 00 | 104 18 | 103 92 | 104 00 | | |
| | New Hamburg | .... | .... | .... | .... | .... | .... | 6 | 840 00 | 940 00 | 840 00 | 312 52 | 311 76 | 120 00 | | |
| | Ayr, Village | .... | .... | .... | .... | .... | .... | 2 | 350 00 | 350 00 | 360 00 | 179 52 | 173 92 | 110 00 | | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| Welland | Niagara Falls, Town | 14 | 15 | 15 | .... | .... | .... | 3 | 3 | 3 | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 2 | 1 | 1 |
| | Crowland | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Chippewa | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1B&W. | 1B&W. | 1B&W. |
| | Fort Erie | 3 | 3 | 3 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Port Colborne | 5 | 5 | 5 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 |
| | Humberstone | 8 | 8 | 7 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 2 | 1 | .... |
| | Stamford | 4 | 4 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... |
| | Thorold, Township | 3 | 3 | 2 | 1 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Thorold, Town | 4 | 4 | 4 | .... | .... | .... | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Welland | 7 | 7 | 7 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Willoughby | 2 | 2 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | 1 | .... |
| | Bertie | 11 | 11 | 11 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | 1 | 1 | 1 |
| | Niagara Falls, South, Vil | 4 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| East Wellington. | Mount Forest | 7 | 7 | 7 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Elora | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Nichol | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Fergus | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | West Garafraxa | 1 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Erin, Township | 4 | 4 | 4 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Arthur, Township | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | West Luther | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Erin, Village | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License Districts. | Municipality. | Licenses Transferred and Removed. | | | | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over statutory duties imposed by Municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1891-2. | |
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| Welland | Niagara Falls, Town | 8 | 6 | 5 | .... | .... | .... | 27 | 25 | 26 | 2,804 00 | 2,805 00 | 2,877 50 | 869 00 | 840 43 | 872 98 | ..... | |
| | Crowland | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 180 00 | 180 00 | 204 00 | 67 54 | 66 78 | 80 33 | ..... | |
| | Chippewa | .... | .... | 1 | .... | .... | .... | 4 | 4 | 5 | 547 50 | 507 50 | 512 50 | 315 38 | 291 84 | 294 84 | 200 00 | |
| | Fort Erie | .... | .... | .... | .... | .... | .... | 5 | 5 | 5 | 540 00 | 605 00 | 600 00 | 151 96 | 186 46 | 184 08 | .. .. .... | |
| | Port Colborne | .... | .... | .... | .... | .... | .... | 7 | 7 | 7 | 897 50 | 899 50 | 877 50 | 328 26 | 326 80 | 315 06 | 97 50 | |
| | Humberstone | .... | 3 | 1 | .... | .... | .... | 10 | 12 | 9 | 830 00 | 857 00 | 715 50 | 315 18 | 335 06 | 277 78 | ..... | |
| | Stamford | 3 | .... | .... | .... | .... | .... | 8 | 4 | 2 | 420 00 | 360 00 | 300 00 | 160 42 | 133 56 | 133 88 | ..... | |
| | Thorold, Township | .... | 1 | .... | .... | .... | .... | 4 | 5 | 4 | 307 50 | 317 50 | 255 00 | 118 20 | 122 44 | 100 40 | ..... | |
| | Thorold, Town | 2 | 1 | 2 | .... | 1 | .... | 7 | 7 | 7 | 1,360 00 | 1,382 00 | 1,385 00 | 830 74 | 840 43 | 842 66 | 600 00 | |
| | Welland | 1 | 2 | 2 | .... | .... | .... | 10 | 11 | 11 | 1,580 00 | 1,607 00 | 1,605 00 | 633 06 | 643 54 | 643 38 | 225 00 | |
| | Willoughby | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 235 00 | 225 00 | 270 00 | 90 06 | 83 48 | 100 40 | ..... | |
| | Bertie | 3 | 4 | 4 | .... | .... | 1 | 15 | 16 | 18 | 1,452 50 | 1,534 35 | 1,546 90 | 799 28 | 840 44 | 848 13 | 411 25 | |
| | Niagara Falls, South, Vil | .... | .... | .... | .... | .... | .... | 4 | 3 | 3 | 380 00 | 360 00 | 380 00 | 112 56 | 100 17 | 111 57 | ... ..... | |
| East Wellington. | Mount Forest | 1 | .... | 2 | .... | .... | .... | 10 | 9 | 11 | 1,945 00 | 1,940 00 | 1,955 00 | 914 38 | 916 03 | 942 72 | 590 00 | |
| | Elora | .... | .... | .... | .... | .... | .... | 4 | 4 | 4 | 640 00 | 640 00 | 650 00 | 267 36 | 268 68 | 279 96 | 160 00 | |
| | Nichol | 1 | 1 | 1 | .... | .... | 1 | 5 | 5 | 6 | 365 00 | 385 00 | 370 00 | 109 62 | 119 98 | 119 99 | ..... | |
| | Fergus | .... | 1 | 1 | .... | .... | .... | 5 | 6 | 6 | 1,000 00 | 1,045 00 | 1,045 00 | 534 23 | 556 20 | 565 56 | 400 00 | |
| | West Garafraxa | 1 | .... | .... | .... | .... | .... | 2 | 2 | 2 | 155 00 | 320 00 | 200 00 | 89 08 | 183 38 | 77 58 | 20 00 | |
| | Erin, Township | 2 | .... | 3 | .... | .... | 1 | 6 | 4 | 8 | 420 00 | 360 00 | 380 00 | 134 22 | 108 56 | 124 78 | ..... | |
| | Arthur, Township | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 140 00 | 26 84 | 27 16 | 52 80 | ..... | |
| | West Luther | .... | .... | .... | .... | .... | .... | 1 | 1 | 1 | 90 00 | 90 00 | 90 00 | 26 84 | 27 18 | 28 80 | ..... | |
| | Erin, Village | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 330 00 | 280 00 | 280 00 | 116 06 | 94 34 | 97 59 | 40 00 | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. Ordinary. 1889-90. | Tavern. Ordinary. 1890-1. | Tavern. Ordinary. 1891-2. | Tavern. Beer and Wine. 1889-90. | Tavern. Beer and Wine. 1890-1. | Tavern. Beer and Wine. 1891-2. | Shop. 1889-90. | Shop. 1890-1. | Shop. 1891-2. | Wholesale. 1889-90. | Wholesale. 1890-1. | Wholesale. 1891-2. | Extended Tavern. 1889-90. | Extended Tavern. 1890-1. | Extended Tavern. 1891-2. | Extended Shop. 1889-90. | Extended Shop. 1890-1. | Extended Shop. 1891-2. | Six months. 1889-90. | Six months. 1890-1. | Six months. 1891-2. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| South Wellington | Pilkington | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Eramosa | 7 | 7 | 8 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Guelph, Township | 1 | 1 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Puslinch | 5 | 5 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Guelph, City | 16 | 16 | 16 | .... | .... | .... | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| West Wellington | Clifford | 3 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | Arthur, Village | 5 | 5 | 5 | .... | .... | .... | 2 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Harriston | 5 | 5 | 5 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Drayton | 4 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Palmerston | 6 | 6 | 7 | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... | .... |
| | Maryborough | 4 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Minto | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Peel | 6 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| North Wentworth | Dnnda | 6 | 6 | 6 | 1 | 1 | 1 | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Beverly | 6 | 6 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | West Flamborough | 7 | 7 | 7 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | East Flamborough | 5 | 4 | 4 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Waterdown | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. Transfers. 1889-90. | Transfers. 1890-1. | Transfers. 1891-2. | Removals. 1889-90. | Removals. 1890-1. | Removals. 1891-2. | Total. 1889-90. | Total. 1890-1. | Total. 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| South Wellington | Pilkington | .... | .... | 2 | .... | .... | .... | 2 | 2 | 4 | 180 00 | 218 00 | 190 00 | 57 28 | 73 64 | 64 52 | .... .... | |
| | Eramosa | 1 | .... | 2 | .... | .... | .... | 8 | 7 | 10 | 635 00 | 700 00 | 750 00 | 202 88 | 265 75 | 253 10 | ..... | |
| | Guelph, Township | 1 | 1 | .... | .... | .... | .... | 2 | 2 | 2 | 95 00 | 147 00 | 180 00 | 31 02 | 54 53 | 62 04 | ..... | |
| | Puslinch | 2 | .... | 2 | .... | .... | .... | 7 | 5 | 8 | 530 00 | 560 00 | 550 00 | 181 40 | 191 10 | 183 65 | ..... | |
| | Guelph, City | 4 | 7 | 6 | .... | .... | .... | 22 | 25 | 24 | 5,510 00 | 5,095 00 | 5,155 00 | 2,711 80 | 2,283 23 | 2,370 30 | 1,400 00 | |
| West Wellington | Clifford | 1 | 3 | 1 | .... | .... | .... | 4 | 6 | 4 | 365 00 | 375 00 | 275 00 | 82 22 | 84 38 | 61 00 | ..... | |
| | Arthur, Village | 2 | 3 | 4 | .... | .... | .... | 9 | 10 | 10 | 1,350 00 | 1,435 00 | 1,300 00 | 663 58 | 709 02 | 635 29 | 400 00 | |
| | Harriston | 1 | .... | .... | .... | .... | .... | 6 | 5 | 5 | 1,375 00 | 1,370 00 | 1,370 00 | 774 57 | 799 59 | 783 00 | 600 00 | |
| | Drayton | .... | .... | 1 | .... | .... | .... | 4 | 3 | 4 | 805 00 | 640 00 | 605 00 | 426 12 | 338 71 | 320 60 | 240 00 | |
| | Palmerston | 1 | 1 | 1 | .... | .... | .... | 8 | 8 | 8 | 1,285 00 | 1,275 00 | 1,427 00 | 478 89 | 541 85 | 605 78 | 350 00 | |
| | Maryborough | 1 | .... | .... | .... | .... | .... | 5 | 3 | 3 | 765 00 | 354 00 | 340 00 | 506 68 | 163 95 | 142 78 | 60 00 | |
| | Minto | .... | .... | 1 | .... | .... | .... | 1 | 1 | 2 | 90 00 | 90 00 | 95 00 | 26 66 | 25 90 | 28 30 | .... .... | |
| | Peel | 5 | 1 | 1 | .... | .... | .... | 11 | 7 | 7 | 735 00 | 749 00 | 785 00 | 324 78 | 354 54 | 365 18 | 180 00 | |
| North Wentworth | Dundas | 1 | 3 | 1 | .... | .... | .... | 10 | 12 | 10 | 1,647 50 | 1,672 50 | 1,692 50 | 679 68 | 703 16 | 708 54 | 360 00 | |
| | Beverly | .... | 1 | 1 | .... | .... | .... | 6 | 7 | 7 | 540 00 | 545 00 | 545 00 | 162 08 | 170 40 | 168 50 | .. .. .... | |
| | West Flamborough | 2 | 2 | 2 | .... | .... | .... | 9 | 9 | 9 | 836 00 | 836 00 | 896 00 | 389 64 | 396 76 | 422 20 | 196 00 | |
| | East Flamborough | 1 | 1 | 1 | .... | .... | .... | 7 | 6 | 6 | 752 50 | 727 50 | 702 50 | 399 84 | 440 08 | 426 96 | 300 00 | |
| | Waterdown | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 320 00 | 300 00 | 320 00 | 134 04 | 116 04 | 135 40 | 80 00 | |

SCHEDULE C.—Comparative Statements by Municipalities, shewing the number of Provincial licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889 90. | 1890-1. | 1891-2. |
| South Wentworth | Binbrook | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 2 | .... | .... | .... | .... | .... | .... |
| | Ancaster | 4 | 4 | 4 | .... | .... | 1 | 1 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | 1 B. W. | .... |
| | Saltfleet | 7 | 7 | 7 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| | Barton | 8 | 8 | 7 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Glanford | 1 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| East York | Scarborough | 5 | 5 | 5 | .... | .... | 1 | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | 1 | 1 B. W. | .... |
| | Markham, Township | 7 | 7 | 6 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | York, East of Yonge St. | 10 | 9 | 9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Markham, Village | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Richmond Hill | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | East Toronto | 3 | 3 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... |
| North York | Aurora | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Holland Landing | 2 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | North Gwillimbury | 3 | 3 | 2 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | 1 B. W. | .... | .... | .... | .... | .... | .... |
| | King | 10 | 10 | 10 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 | .... | .... | .... | .... | .... | .... | .... |
| | East Gwillimbury | 5 | 5 | 5 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Whitchurch | 3 | 3 | 3 | 1 | 1 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Newmarket | 6 | 6 | 6 | .... | .... | .... | 1 | 2 | 2 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Georgina | 6 | 5 | 2 | 1 | 2 | 1 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Stouffville | 3 | 3 | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| | Sutton | .... | .... | 3 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1 |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. — Transfers. 1889-90. | 1890-1. | 1891-2. | Removals. 1889-90. | 1890-1. | 1891-2. | Total. 1889-90. | 1890-1. | 1891-2. | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. 1889-90. | 1890-1. | 1891-2. | Proportion thereof paid to Municipalities. 1889-90. | 1890-1. | 1891-2. | Excess over Statutory duties imposed by Municipal by-laws. 1891-2. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| South Wentworth | Binbrook | 1 | 1 | .... | .... | .... | .... | 2 | 2 | 1 | 95 00 | 95 00 | 90 00 | 27 69 | 26 50 | 22 40 | ..... | |
| | Ancaster | 2 | 1 | 1 | .... | .... | .... | 7 | 8 | 8 | 580 00 | 593 00 | 595 00 | 188 92 | 166 76 | 146 78 | ..... | |
| | Saltfleet | 3 | .... | .... | .... | .... | .... | 10 | 7 | 7 | 645 00 | 740 00 | 710 00 | 185 32 | 215 96 | 186 66 | ..... | |
| | Barton | 1 | .... | .... | .... | 1 | .... | 9 | 9 | 7 | 765 00 | 745 00 | 670 00 | 223 66 | 205 78 | 171 74 | ..... | |
| | Glanford | .... | .... | 1 | .... | .... | .... | 1 | 2 | 3 | 90 00 | 180 00 | 185 00 | 25 56 | 48 90 | 46 68 | ..... | |
| East York | Scarborough | 1 | .... | 1 | .... | .... | .... | 8 | 6 | 7 | 877 50 | 868 75 | 872 50 | 511 06 | 489 34 | 503 87 | 360 00 | |
| | Markham, Township | 2 | 1 | .... | .... | .... | .... | 9 | 8 | 6 | 960 00 | 1,085 00 | 780 00 | 496 75 | 526 26 | 385 90 | 240 00 | |
| | York, East of Yonge St. | .... | 1 | 2 | .... | .... | .... | 10 | 10 | 11 | 1,100 00 | 1,085 00 | 1,000 00 | 476 70 | 442 82 | 402 90 | 180 00 | |
| | Markham, Village | 1 | .... | 2 | .... | .... | .... | 4 | 3 | 5 | 485 00 | 420 00 | 430 00 | 172 99 | 134 50 | 137 00 | 60 00 | |
| | Richmond Hill | .... | .... | 1 | .... | .... | .... | 2 | 2 | 3 | 420 00 | 420 00 | 425 00 | 235 32 | 229 68 | 230 66 | 180 00 | |
| | East Toronto | .... | 1 | .... | .... | .... | .... | 3 | 4 | 3 | 450 00 | 475 00 | 337 50 | 173 00 | 174 84 | 122 21 | 67 50 | |
| North York | Aurora | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 545 00 | 590 00 | 600 00 | 210 96 | 231 73 | 273 64 | 150 00 | |
| | Holland Landing | .... | .... | .... | .... | .... | .... | 2 | 2 | 2 | 240 00 | 240 00 | 240 00 | 62 74 | 61 66 | 61 82 | ..... .... | |
| | North Gwillimbury | 3 | 2 | 2 | .... | .... | .... | 7 | 6 | 6 | 422 50 | 317 50 | 256 88 | 169 96 | 113 04 | 96 60 | ..... | |
| | King | 1 | 1 | 1 | .... | .... | .... | 11 | 12 | 11 | 1,345 00 | 1,427 50 | 1,345 00 | 737 30 | 774 83 | 732 28 | 400 00 | |
| | East Gwillimbury | 3 | 1 | 1 | .... | .... | .... | 9 | 7 | 7 | 522 50 | 492 50 | 512 50 | 190 88 | 172 14 | 182 88 | ..... .. | |
| | Whitchurch | 1 | 2 | .... | .... | .... | .... | 5 | 6 | 4 | 312 50 | 367 50 | 307 50 | 112 44 | 138 74 | 108 18 | .. .... | |
| | Newmarket | 2 | 1 | 3 | .... | .... | .... | 9 | 9 | 11 | 1,235 00 | 1,520 00 | 1,505 00 | 463 54 | 614 84 | 608 00 | 250 00 | |
| | Georgina | .... | .... | .... | .... | .... | .... | 7 | 7 | 3 | 577 50 | 545 00 | 217 50 | 203 94 | 195 28 | 77 26 | ..... | |
| | Stouffville | 1 | .... | 1 | .... | .... | .... | 4 | 3 | 4 | 455 00 | 450 00 | 455 00 | 186 74 | 182 50 | 185 29 | 90 00 | |
| | Sutton | .. . | ... | .... | .... | .... | .... | .... | .... | 4 | ..... | ..... | 405 00 | ..... .. | ..... | 108 18 | ..... | |

SCHEDULE C.—Comparative Statement by Municipalities, shewing the number of Provincial Licenses, etc.—*Continued.*

| License District. | Municipality. | Tavern. | | | | | | Shop. | | | Wholesale. | | | Extended Tavern. | | | Extended Shop. | | | Six Months. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Ordinary. | | | Beer and Wine. | | | | | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1899-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| West York. | York, West of Yonge St. | 9 | 7 | 7 | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ... | ..... |
| | Vaughan ..... | 10 | 9 | 10 | .... | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | 1 | .... | ..... | ..... | ..... | ..... | .... | .... |
| | Etobicoke ..... | 5 | 5 | 5 | .... | .. | .... | .... | .... | .... | ..... | ..... | ..... | ..... | .... | 1 | ..... | ..... | ..... | ..... | ..... | ..... |
| | Woodbridge, Village .. | 3 | 3 | 2 | .. | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | .... | .... | ..... | ..... | ..... | ..... | ..... |
| | Weston, Village..... | 3 | 3 | 3 | .... | .. | .... | .... | .... | .... | .... | .... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | West Toronto Junction. | 7 | 4 | 4 | .... | .... | .... | .... | .... | 1 | ..... | ..... | ..... | ..... | 3 | 1 | ..... | ..... | ..... | ..... | ..... | ..... |
| | North Toronto, Town. | .... | 3 | 3 | .... | .... | .... | .... | .... | .... | ..... | .... | ..... | ..... | .. .. | .... | ..... | .... | ..... | ..... | ..... | ..... |

SCHEDULE C.—*Continued.*

| License District. | Municipality. | Licenses Transferred and Removed. | | | | | | Total. | | | Amounts received for Provincial Licenses, Transfers, Removals, and Fines in each Municipality. | | | Proportion thereof paid to Municipalities. | | | Excess over Statutory duties imposed by municipal by-laws. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Transfers. | | | Removals. | | | | | | | | | | | | | |
| | | 1889-90. | 1890-1. | 1891 2. | 1889 90. | 1890-1. | 1891 2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1 | 1891-2. | 1891-2. | |
| | | | | | | | | | | | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. | |
| West York. | York, West of Yonge St. | 3 | 2 | 1 | .... | .... | .... | 12 | 9 | 8 | 1,005 00 | 840 00 | 875 00 | 461 56 | 368 32 | 394 12 | 140 00 | |
| | Vaughan | 2 | 1 | .... | .... | .... | .... | 12 | 11 | 10 | 1,330 00 | 1,227 50 | 1,300 00 | 719 64 | 640 07 | 690 42 | 400 00 | |
| | Etobicoke | .... | 1 | .... | .... | .... | .... | 5 | 6 | 6 | 450 00 | 515 00 | 602 50 | 152 20 | 170 08 | 215 40 | ..... ... | |
| | Woodbridge, Village | .... | .... | .... | .... | .... | .... | 3 | 3 | 3 | 480 00 | 480 00 | 360 00 | 211 32 | 204 00 | 155 34 | 90 00 | |
| | Weston, Village | 1 | 1 | .... | .... | .... | .... | 4 | 4 | 3 | 545 00 | 545 00 | 560 00 | 273 86 | 266 20 | 276 81 | 180 00 | |
| | West Toronto Junction | .... | 1 | 1 | .... | .... | .... | 7 | 8 | 7 | 1,890 00 | 1,287 50 | 1,347 50 | 1,124 12 | 749 39 | 737 50 | 510 00 | |
| | North Toronto, Town | .... | 1 | 1 | .... | .... | .... | .... | 4 | 4 | ..... | 515 00 | 485 00 | ..... | 174 15 | 148 58 | 30 00 | |
| | Totals | .... | .... | .... | .... | .... | .... | .... | .... | .... | 680560 55 | 680298 68 | 665609 10 | 297353 45 | 294968 26 | 289487 41 | 146876 20 | |

## SCHEDULE D.

COMPARATIVE STATEMENT of the amount of Fines collected and the amounts paid in respect of Expenses of Commissioners and Salaries of Inspectors in each License District, for the license years 1889-90, 1890-1 and 1891-2 respectively.

| License District. | Fines Collected. | | | Paid in respect of Expenses of Commissioners and Salaries of Inspectors. | | |
|---|---|---|---|---|---|---|
| | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Addington | 20 00 | 200 00 | 185 00 | 530 92 | 549 75 | 577 00 |
| Algoma | 148 25 | 160 00 | 120 00 | 404 65 | 443 57 | 504 65 |
| Brant, North | 70 00 | 140 00 | 132 00 | 587 70 | 567 09 | 580 81 |
| Brant, South | 40 00 | ..... | ..... | 346 42 | 379 00 | 403 00 |
| Brantford | 60 00 | 60 00 | 64 00 | 469 39 | 536 00 | 536 00 |
| Brockville and Leeds | 227 55 | 370 00 | 259 00 | 642 50 | 685 00 | 685 00 |
| Bruce, Centre | 217 00 | 140 00 | 205 00 | 459 00 | 500 20 | 552 25 |
| Bruce, North | 85 00 | 80 00 | 115 00 | 519 45 | 541 80 | 593 20 |
| Bruce, South | 138 00 | 248 00 | 100 00 | 604 56 | 595 35 | 547 80 |
| Cardwell | 255 75 | 288 60 | 40 00 | 573 60 | 565 57 | 569 40 |
| Carleton | 40 00 | 40 00 | 230 00 | 497 57 | 532 05 | 516 90 |
| Cornwall | 60 00 | 120 00 | 210 00 | 490 00 | 499 00 | 484 00 |
| Dufferin | 275 00 | 95 10 | 60 00 | 528 25 | 513 50 | 522 50 |
| Dundas | 226 00 | 536 00 | 260 00 | 558 77 | 560 29 | 617 05 |
| Durham, East | 27 00 | 144 00 | 130 00 | 516 50 | 511 65 | 500 35 |
| Durham, West | 190 00 | 380 00 | 110 00 | 595 09 | 550 00 | 610 01 |
| Elgin, East | 323 00 | 174 00 | 176 00 | 357 41 | 513 00 | 529 00 |
| Elgin, West | 400 00 | 220 00 | 230 00 | 500 00 | 657 45 | 571 00 |
| Essex, North | 390 00 | 260 00 | 320 00 | 734 86 | 785 97 | 750 00 |
| Essex, South | 14 00 | 195 00 | 322 00 | 554 50 | 542 00 | 564 75 |
| Frontenac | 50 00 | 90 00 | 40 00 | 498 75 | 516 00 | 546 00 |
| Glengarry | 180 00 | 100 00 | 207 00 | 610 00 | 597 50 | 582 54 |
| Grenville | 340 00 | 280 00 | 190 00 | 531 17 | 568 00 | 562 00 |
| Grey, Centre | 110 00 | 20 00 | 110 00 | 532 25 | 538 50 | 561 50 |
| Grey, North | 396 00 | 705 00 | 224 00 | 505 00 | 510 00 | 515 00 |
| Grey, South | 140 00 | 190 00 | 186 00 | 500 00 | 508 25 | 557 50 |
| Haldimand | 40 00 | 120 00 | 100 00 | 501 50 | 517 35 | 511 00 |
| Haliburton | 50 00 | ..... | ..... | 167 70 | 159 00 | 161 00 |
| Halton | 280 00 | 95 00 | 75 00 | 487 00 | 480 10 | 507 85 |
| Hamilton | 1,080 00 | 1,200 00 | 1,481 00 | 1,200 00 | 1,525 00 | 1,925 00 |
| Hastings, East | 260 00 | 84 00 | 68 00 | 557 50 | 572 00 | 638 98 |
| Hastings, North | 60 00 | 20 00 | 20 00 | 615 25 | 540 35 | 560 60 |
| Hastings, West | 334 80 | 390 00 | 432 00 | 944 93 | 1,108 62 | 1,052 00 |
| Huron, East | 130 00 | 130 00 | 170 00 | 622 00 | 622 00 | 622 00 |
| Huron, South | 180 00 | 230 00 | 161 00 | 608 00 | 634 00 | 562 00 |
| Huron, West | 310 00 | 340 00 | 255 00 | 607 00 | 642 50 | 630 50 |
| Kent, East | 610 00 | 370 00 | 320 00 | 605 71 | 611 75 | 618 50 |
| Kent, West | 304 00 | 641 90 | 1,215 25 | 621 00 | 623 00 | 630 00 |
| Kingston | 444 00 | 290 00 | 560 00 | 800 00 | 800 00 | 800 00 |
| Lambton, East | 110 00 | 200 00 | 300 00 | 418 00 | 473 75 | 466 65 |
| Lambton, West | 350 00 | 460 00 | 260 00 | 428 75 | 475 00 | 470 00 |
| Lanark, North | 615 00 | 305 00 | 185 00 | 443 75 | 462 00 | 450 00 |
| Lanark, South | 190 00 | 100 00 | 100 00 | 449 39 | 459 75 | 461 60 |
| Lennox | 76 00 | 210 00 | 350 00 | 431 25 | 516 50 | 462 50 |
| Lincoln | 269 35 | 468 00 | 172 90 | 398 91 | 471 25 | 447 25 |
| London | 390 00 | 804 00 | 482 00 | 901 00 | 941 12 | 1,005 00 |
| Manitoulin | 20 00 | 109 00 | 50 00 | 417 50 | 438 71 | 516 50 |
| Middlesex, East | 200 00 | 140 00 | 70 00 | 601 00 | 744 00 | 702 00 |
| Middlesex, North | 140 00 | 110 00 | 280 00 | 636 35 | 684 00 | 600 00 |
| Middlesex, West | 85 00 | 330 00 | 175 00 | 582 50 | 663 60 | 643 25 |
| Monck | 80 00 | 20 00 | 20 00 | 494 00 | 493 00 | 494 00 |
| Muskoka | 150 00 | 450 00 | 50 00 | 520 25 | 508 35 | 513 90 |
| Nipissing | 105 00 | 190 00 | ..... | 300 00 | 344 70 | 446 05 |
| Norfolk, North | 199 00 | 20 00 | 150 00 | 620 00 | 560 00 | 536 00 |
| Norfolk, South | 170 00 | 30 00 | 30 00 | 592 50 | 490 00 | 489 98 |

## SCHEDULE D.

COMPARATIVE STATEMENT of the amount of Fines, etc., in each License District, for the license years 1889-90, 1890-1 and 1891-2 respectively.—*Continued.*

| License District. | Fines Collected. | | | Paid in respect of expenses of Commissioners and Salaries of Inspectors. | | |
|---|---|---|---|---|---|---|
| | 1889-90. | 1890-1. | 1891-2. | 1889-90. | 1890-1. | 1891-2. |
| | $ c. | $ c. | $ c. | $ c. | $ c. | $ c. |
| Northumberland, East | 100 00 | 170 00 | 125 00 | 576 13 | 568 00 | 604 00 |
| Northumberland, West | 130 00 | 200 00 | 152 00 | 487 25 | 489 00 | 496 00 |
| Ontario, North | 40 00 | 245 00 | 416 00 | 596 30 | 643 90 | 658 80 |
| Ontario, South | 365 00 | 145 00 | 207 00 | 604 08 | 629 10 | 621 85 |
| Ottawa | 820 00 | 611 00 | 610 00 | 1,750 00 | 1,650 00 | 1,675 00 |
| Oxford, North | 360 00 | 600 00 | 520 00 | 491 50 | 532 00 | 622 00 |
| Oxford, South | 250 00 | 50 00 | 110 00 | 586 30 | 646 50 | 640 60 |
| Parry Sound | 190 00 | 510 00 | 550 00 | 446 30 | 464 80 | 495 00 |
| Peel | 285 00 | 90 00 | 145 00 | 596 50 | 579 42 | 592 30 |
| Perth, North | 320 00 | 480 00 | 50 00 | 750 00 | 644 34 | 561 90 |
| Perth, South | 277 50 | 335 00 | 180 00 | 617 00 | 608 00 | 646 78 |
| Peterborough, East | 80 00 | 55 00 | 120 00 | 536 25 | 523 80 | 519 00 |
| Peterborough, West | 50 00 | 126 00 | 336 00 | 461 34 | 472 00 | 573 00 |
| Prescott | 293 00 | 40 00 | 40 00 | 513 75 | 486 76 | 485 25 |
| Prince Edward | 260 00 | 130 00 | 100 00 | 576 00 | 576 00 | 614 00 |
| Rainy River | | 50 00 | 90 00 | 300 00 | 250 00 | 300 00 |
| Renfrew, North | 10 00 | 200 00 | 150 00 | 530 00 | 536 25 | 525 20 |
| Renfrew, South | 535 00 | 854 00 | 595 00 | 524 00 | 553 00 | 563 13 |
| Russell | 10 00 | 474 00 | 310 00 | 591 53 | 621 78 | 613 30 |
| St. Catharines | 80 00 | 60 00 | 60 00 | 519 99 | 570 00 | 625 00 |
| Simcoe, Centre | 80 00 | 330 00 | 80 00 | 650 29 | 636 54 | 658 25 |
| Simcoe, East | 400 00 | 145 47 | 165 00 | 573 54 | 566 30 | 535 80 |
| Simcoe, West | 330 00 | 160 00 | 150 00 | 550 30 | 527 70 | 517 15 |
| Stormont | 60 00 | 20 00 | 70 00 | 550 00 | 615 00 | 510 00 |
| Thunder Bay | 170 00 | 240 00 | 190 00 | 495 00 | 498 00 | 457 50 |
| Toronto | 1,985 00 | 1,530 00 | 3,465 00 | 3,787 70 | 3,841 31 | 4,166 66 |
| Victoria, East | 150 00 | 266 50 | 218 00 | 313 95 | 284 05 | 350 31 |
| Victoria, West | 380 00 | 160 00 | 200 00 | 660 04 | 599 10 | 574 60 |
| Waterloo, North | 338 00 | 260 00 | 243 00 | 564 00 | 609 00 | 586 50 |
| Waterloo, South | 26 00 | 85 00 | 220 00 | 577 25 | 575 00 | 582 50 |
| Welland | 174 00 | 289 85 | 420 15 | 768 83 | 821 48 | 808 75 |
| Wellington, East | 100 00 | 80 00 | 105 00 | 600 26 | 603 46 | 585 90 |
| Wellington, South | 160 00 | 260 00 | 150 00 | 602 09 | 604 15 | 606 00 |
| Wellington, West | 85 00 | 224 00 | 272 00 | 631 65 | 633 25 | 675 30 |
| Wentworth, North | 45 00 | 65 00 | 130 00 | 589 00 | 511 75 | 508 50 |
| Wentworth, South | 150 00 | 159 25 | 180 00 | 476 75 | 528 00 | 554 00 |
| York, East | 110 00 | 350 00 | 20 00 | 557 00 | 547 85 | 558 79 |
| York, North | 200 00 | 290 00 | 120 00 | 510 00 | 528 40 | 524 00 |
| York, West | 20 00 | 140 00 | 295 00 | 537 50 | 528 80 | 517 75 |
| Totals | 21,073 20 | 22,572 07 | 23,316 30 | 56.270 55 | 57,931 68 | 59,193 69 |

## SCHEDULE E.

STATEMENT showing Miscellaneous Expenditure incurred in each License District, including postage and stationery, printing, advertising, Magistrates, constables, witness, counsel and detective fees, etc., for the License years 1890-1 and 1891-2.

| License District. | Amount 1890-91 | Amount 1891-2. | License District | Amount 1890-91. | Amount 1891-2. |
|---|---|---|---|---|---|
| | $ c. | $ c. | | $ c. | $ c. |
| Addington | 102 75 | 73 50 | Middlesex, North | 72 25 | 76 01 |
| Algoma | 113 28 | 109 84 | Middlesex, West | 160 92 | 197 42 |
| Brant, North | 142 80 | 243 64 | Monck | 102 45 | 36 79 |
| Brant, South | 125 81 | 92 00 | Muskoka | 87 40 | 48 60 |
| Brantford, City | 224 98 | 298 00 | Nipissing | 84 60 | 25 61 |
| Brockville and Leeds | 145 52 | 75 31 | Norfolk, North | 57 55 | 103 39 |
| Bruce, Center | 84 79 | 147 00 | Norfolk, South | 111 85 | 52 52 |
| Bruce, North | 172 83 | 103 82 | Northumberland, East | 196 11 | 142 51 |
| Bruce, South | 258 15 | 131 30 | Northumberland, West | 266 72 | 158 11 |
| Cardwell | 177 81 | 75 17 | Ontario, North | 147 78 | 167 63 |
| Carleton | 54 63 | 35 35 | Ontario, South | 56 65 | 83 71 |
| Cornwall | 41 85 | 29 45 | Ottawa | 355 28 | 383 01 |
| Dufferin | 326 37 | 228 66 | Oxford, North | 145 33 | 134 26 |
| Dundas | 330 06 | 201 92 | Oxford, South | 92 72 | 140 98 |
| Durham, East | 191 28 | 214 11 | Parry Sound | 308 44 | 448 91 |
| Durham, West | 65 15 | 58 35 | Peel | 248 10 | 104 58 |
| Elgin, East | 189 56 | 146 47 | Perth, North | 187 82 | 143 27 |
| Elgin, West | 208 13 | 183 33 | Perth, South | 98 50 | 51 20 |
| Essex, North | 492 68 | 198 70 | Peterborough, East | 55 44 | 66 01 |
| Essex, South | 151 45 | 259 18 | Peterborough, West | 103 70 | 86 30 |
| Frontenac | 231 41 | 55 90 | Prescott | 115 16 | 62 38 |
| Glengarry | 124 15 | 64 25 | Prince Edward | 118 66 | 86 80 |
| Grenville | 190 64 | 109 26 | Rainy River | 157 50 | 103 15 |
| Grey, Centre | 49 95 | 28 25 | Renfrew, North | 70 39 | 68 20 |
| Grey, North | 199 23 | 113 01 | Renfrew, South | 468 62 | 440 89 |
| Grey, South | 62 06 | 88 76 | Russell | 194 58 | 184 63 |
| Haldimand | 79 27 | 62 86 | St. Catharines, City | 123 29 | 60 52 |
| Haliburton | 40 41 | 19 50 | Simcoe, Centre | 218 14 | 135 05 |
| Halton | 181 75 | 124 23 | Simcoe, East | 194 62 | 142 73 |
| Hamilton | 1,139 08 | 1,118 03 | Simcoe, West | 154 88 | 92 89 |
| Hastings, East | 114 38 | 115 78 | Stormont | 103 67 | 95 05 |
| Hastings, North | 57 92 | 41 57 | Thunder Bay | 154 11 | 160 46 |
| Hastings, West | 244 57 | 236 84 | Toronto | 2,521 86 | 2,575 46 |
| Huron, East | 204 87 | 123 24 | Victoria, East | 162 33 | 76 10 |
| Huron, South | 78 27 | 22 10 | Victoria, West | 204 57 | 177 09 |
| Huron, West | 149 60 | 133 46 | Waterloo, North | 112 85 | 99 75 |
| Kent, East | 325 38 | 250 42 | Waterloo, South | 90 23 | 99 11 |
| Kent, West | 321 28 | 447 11 | Welland | 153 71 | 148 80 |
| Kingston, City | 125 41 | 111 23 | Wellington, East | 99 15 | 44 45 |
| Lambton, East | 119 70 | 154 28 | Wellington, South | 298 49 | 183 59 |
| Lambton, West | 312 09 | 183 13 | Wellington, West | 198 58 | 208 81 |
| Lanark, North | 151 79 | 101 33 | Wentworth, North | 72 59 | 108 10 |
| Lanark, South | 87 83 | 110 52 | Wentworth, South | 105 40 | 139 61 |
| Lennox | 163 35 | 204 48 | York, East | 255 99 | 113 64 |
| Lincoln | 184 07 | 236 46 | York North | 211 97 | 157 30 |
| London | 718 82 | 427 84 | York, West | 202 78 | 200 00 |
| Manitoulin | 90 78 | 33 60 | | | |
| Middlesex, East | 147 00 | 85 70 | Total | 19,198 57 | 16,323 62 |

RECAPITULATION

of Receipts and Expenditures, 1890-91.

| | | |
|---|---|---|
| Total Receipts, Schedule "C" | | $680,298 68 |
| Paid to Municipalities, Schedule "C" | $294,968 26 | |
| " " the Province, " "A" | 308,200 17 | |
| " for Inspectors' salaries and Commissioners' expenses, Schedule "D" | 57,931 68 | |
| " for sundries, " "E" | 19,198 57 | |
| | | $680,298 68 |

1891-92.

| | | |
|---|---|---|
| Total Receipts, Schedule "C" | | $665,609 10 |
| Paid to Municipalities, Schedule "C" | $289,487 41 | |
| " " the Province, " "A" | 300,604 38 | |
| " for Inspectors' salaries and Commissioners's expenses, Schedule "D" | 59,193 69 | |
| " sundries " "E" | 16,323 62 | |
| | | $665,609 10 |

## SCHEDULE F.

Comparative Statement, shewing the number of Prisoners' committed to the County Gaols for Drunkenness, during the years 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891 and 1892.

| County or District. | 1876 | 1877 | 1878 | 1879 | 1880 | 1881 | 1882 | 1883 | 1884 | 1885 | 1886 | 1887 | 1888 | 1889 | 1890 | 1891 | 1892 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Algoma | 8 | 4 | 4 | 24 | 19 | 17 | 24 | 21 | 15 | 12 | 1 | 85 | 128 | 64 | 69 | 77 | 55 |
| Brant | 97 | 84 | 75 | 63 | 81 | 64 | 80 | 75 | 58 | 28 | 91 | 112 | 147 | 218 | 182 | 112 | 89 |
| Bruce | 1 | 2 | 17 | 8 | 2 | 14 | 4 | 10 | 3 | .... | 2 | 6 | 22 | 8 | 6 | 7 | 3 |
| Carleton | 387 | 319 | 283 | 272 | 222 | 269 | 265 | 261 | 314 | 205 | 280 | 286 | 297 | 296 | 336 | 204 | 182 |
| Dufferin | .... | .... | .... | .... | .... | 1 | ... | ... | 1 | 1 | 3 | 3 | 1 | 4 | 2 | 1 | 2 |
| Elgin | 31 | 41 | 47 | 54 | 53 | 45 | 61 | 92 | 82 | 57 | 30 | 25 | 29 | 23 | 20 | 32 | 12 |
| Essex | 87 | 55 | 60 | 59 | 71 | 51 | 91 | 121 | 103 | 47 | 31 | 45 | 46 | 47 | 35 | 57 | 38 |
| Frontenac | 143 | 137 | 139 | 126 | 102 | 53 | 25 | 46 | 75 | 74 | 58 | 108 | 107 | 139 | 129 | 125 | 87 |
| Grey | 15 | 13 | 14 | 35 | 40 | 23 | 23 | 19 | 28 | 36 | 20 | 21 | 29 | 27 | 17 | 13 | 14 |
| Haldimand | 7 | 2 | 6 | 10 | 15 | 6 | 4 | 7 | 7 | 18 | 15 | 17 | 24 | 25 | 15 | 22 | 7 |
| Halton | 21 | 15 | 6 | 1 | 6 | 5 | 4 | 7 | 6 | 9 | 13 | 5 | 19 | 13 | 9 | 9 | 6 |
| Hastings | 20 | 13 | 43 | 34 | 16 | 35 | 67 | 57 | 50 | 45 | 34 | 51 | 67 | 39 | 49 | 34 | 18 |
| Huron | 24 | 29 | 22 | 15 | 22 | 18 | 8 | 5 | 4 | 3 | 4 | .... | 4 | 2 | 5 | 5 | 2 |
| Kent | 24 | 20 | 20 | 33 | 24 | 13 | 28 | 23 | 26 | 18 | 14 | 7 | 9 | 61 | 71 | 47 | 26 |
| Lambton | 123 | 84 | 142 | 115 | 120 | 77 | 77 | 75 | 105 | 130 | 72 | 38 | 64 | 99 | 108 | 95 | 27 |
| Lanark | 7 | 6 | 10 | 8 | 7 | 10 | 4 | 9 | 7 | 6 | 4 | 9 | 4 | 2 | 5 | 5 | 3 |
| Leeds and Grenville | 84 | 69 | 84 | 71 | 72 | 56 | 67 | 19 | 135 | 80 | 36 | 24 | 31 | 52 | 58 | 44 | 44 |
| Lennox and Addington | 6 | 4 | 5 | 9 | 11 | 14 | 11 | 18 | 20 | 6 | 3 | 8 | 7 | 4 | 22 | 23 | 12 |
| Lincoln | 56 | 98 | 68 | 51 | 44 | 55 | 41 | 65 | 39 | 29 | 21 | 21 | 28 | 33 | 24 | 12 | 9 |
| Middlesex | 155 | 106 | 211 | 193 | 235 | 210 | 242 | 269 | 445 | 277 | 338 | 404 | 403 | 540 | 332 | 213 | 150 |
| Muskoka & Parry S'd. | 2 | 9 | 8 | 6 | 8 | 3 | 13 | 8 | 16 | 84 | 39 | 8 | 6 | 45 | 28 | 19 | 9 |
| Nipissing | .... | .... | ... | 1 | 1 | .... | 2 | 10 | 17 | 6 | .... | 13 | 32 | 81 | 97 | 96 | 28 |
| Norfolk | 11 | 35 | 21 | 15 | 26 | 14 | 18 | 18 | 17 | 4 | 6 | 5 | 3 | 17 | 3 | 10 | 5 |
| Northumberland and Durham | 56 | 67 | 38 | 24 | 25 | 20 | 10 | 21 | 26 | 26 | 15 | 6 | 12 | 28 | 38 | 22 | 25 |
| Ontario | 10 | 10 | 12 | 11 | 6 | 2 | 5 | 10 | 1 | 4 | .. | .... | .... | 5 | 2 | .... | 1 |
| Oxford | 57 | 30 | 46 | 55 | 54 | 47 | 32 | 28 | 51 | 21 | 28 | .... | 64 | 55 | 51 | 34 | 24 |
| Peel | 32 | 45 | 22 | 27 | 14 | 9 | 14 | 4 | 10 | 24 | 10 | 8 | 24 | 28 | 30 | 17 | 10 |
| Perth | 54 | 75 | 56 | 35 | 39 | 26 | 20 | 37 | 14 | 17 | 15 | 12 | 9 | 16 | 14 | 4 | 7 |
| Peterborough | 5 | 11 | 5 | 5 | 27 | 27 | 38 | 71 | 30 | 27 | 13 | 11 | 26 | 20 | 45 | 24 | 22 |
| Prescott and Russell | 2 | 6 | .... | .... | 1 | 1 | 2 | 2 | .... | 3 | 1 | .... | .... | 2 | .. | 5 | 1 |
| Prince Edward | 31 | 29 | 22 | 46 | 75 | 60 | 76 | 70 | 46 | 41 | 54 | 20 | 45 | 38 | 33 | 19 | 11 |
| Renfrew | 2 | 3 | 2 | 5 | 10 | 10 | 24 | 17 | 27 | 11 | 2 | 2 | .... | 4 | 1 | .... | 5 |
| Simcoe | 66 | 91 | 133 | 82 | 107 | 62 | 56 | 87 | 99 | 31 | 35 | 16 | 28 | 46 | 34 | 34 | 19 |
| Stormont, Dundas and Glengarry | 7 | 33 | 18 | 17 | 3 | 4 | 7 | 8 | 9 | 3 | 1 | 4 | 7 | 29 | 25 | 14 | 22 |
| Thunder Bay | 78 | 105 | 95 | 81 | 83 | 126 | 88 | 296 | 705 | 153 | 119 | 148 | 148 | 135 | 125 | 120 | 135 |
| Victoria & Haliburton | 22 | 32 | 25 | 10 | 7 | 8 | 14 | 7 | 20 | 13 | 1 | 2 | 4 | 4 | 7 | 1 | 9 |
| Waterloo | 13 | 10 | 4 | 28 | 11 | 11 | 10 | 14 | 11 | 7 | 4 | 8 | 12 | 20 | 17 | 13 | 4 |
| Welland | 69 | 101 | 321 | 188 | 186 | 145 | 50 | 34 | 23 | 33 | 40 | 32 | 12 | 21 | 16 | 7 | 13 |
| Wellington | 41 | 36 | 26 | 23 | 40 | 36 | 51 | 93 | 49 | 32 | 12 | 22 | 21 | 10 | 10 | 4 | 14 |
| Wentworth | 259 | 396 | 382 | 382 | 447 | 339 | 396 | 376 | 295 | 368 | 385 | 373 | 429 | 401 | 418 | 251 | 142 |
| York | 1755 | 1807 | 1293 | 1359 | 1463 | 1342 | 1445 | 1485 | 1661 | 1707 | 1705 | 2166 | 2098 | 2096 | 2085 | 1783 | 1444 |
| Total | 3868 | 4072 | 3785 | 3581 | 3795 | 3328 | 3497 | 4897 | 4650 | 3696 | 3555 | 4130 | 4451 | 4797 | 4573 | 3614 | 2736 |

## SCHEDULE G.

Names and Post Office Addresses of the Inspectors of Licenses of the several License Districts throughout the Province.

| License District. | Inspector | P. O. Address. |
|---|---|---|
| Addington | James M. Smith | Tamworth. |
| Algoma | A. G. Duncan | Sault Ste. Marie |
| Brant, North | Geo. Pike | Brantford |
| Brant, South | Isaac B. Merritt | Scotland. |
| Brantford, City | Southworth Cole | Brantford. |
| Brockville and Leeds | R. R. Phillips | Caintown. |
| Bruce, Centre | John Irving | Paisley |
| Bruce, North | Alexander McCannel | Port Elgin. |
| Bruce, South | Angus Stewart | Lucknow |
| Cardwell | G. N. Clark | Beeton. |
| Carleton | John O'Callaghan | Kars. |
| Cornwall | William Pollock | Cornwall. |
| Dufferin | J. F. Dodds | Orangeville. |
| Dundas | Asa Beach | Iroquois. |
| Durham, East | E. A. Powers | Port Hope. |
| Durham, West | W. R. Climie | Bowmanville. |
| Elgin, East | Asa Miller | Aylmer. |
| Elgin, West | Alexander Beaton | West Lorne. |
| Essex, North | Gaspard Pacaud | Windsor. |
| Essex, South | Alanson Elliott | Oxley. |
| Frontenac | John Dawson | Wolfe Island. |
| Glengarry | Archibald McNab | Alexandria. |
| Grenville | Charles Chapman | Prescott. |
| Grey, Centre | James Campbell | Clarksburg. |
| Grey, North | C. C. Pearce | Owen Sound. |
| Grey, South | Thomas A. Harris | Durham. |
| Haldimand | Hiram Gee | Fisherville. |
| Haliburton | R. C. Garratt | Minden. |
| Halton | T. A. Reynolds | Oakville. |
| Hamilton | J. I. Mackenzie<br>Frederick Walter | Hamilton. |
| Hastings, East | Michael Lally | Belleville. |

SCHEDULE G.—*Continued.*

| License District. | Inspector. | P. O. Address. |
|---|---|---|
| Hastings, North | Edward Mouncey | Madoc. |
| Hastings, West | James St. Charles | Belleville. |
| Huron, East | John R. Miller | Jamestown. |
| Huron, South | Wm. Ballantyne | Seaforth. |
| Huron, West | Wm. J. Paisley | Clinton. |
| Kent, East | Thomas Boon | Bothwell. |
| Kent, West | Israel Evans | Chatham. |
| Kingston | William Glidden | Kingston. |
| Lambton, East | H. G. Taylor | Wyoming. |
| Lambton, West | Reuben C. Palmer | Sarnia. |
| Lanark, North | J. D. Robertson | Almonte. |
| Lanark, South | John McCann | Perth. |
| Lennox | W. A. Rose | Napanee. |
| Lincoln | R. Fowlie | St. Catharines. |
| London | Robert Henderson | London. |
| Manitoulin | J. B. White | Manitowaning. |
| Middlesex, East | John Durand | Dorchester Station. |
| Middlesex, North | Daniel Schoff | Clandeboye. |
| Middlesex, West | W. C. Robertson | Mt. Brydges. |
| Monck | L. Massecar | Dunnville. |
| Muskoka | Elijah F. Stephenson | Bracebridge. |
| Nipissing | Napoleon Fink | Mattawa. |
| Norfolk, North | W. F. Nickerson | Simcoe. |
| Norfolk, South | James E. Decon | Port Dover. |
| Northumberland, East | Patrick Gallagher | Warkworth. |
| Northumberland, West | James Bulger | Cobourg. |
| Ontario, North | E. J. Breen | Uxbridge. |
| Ontario, South | John Ferguson | Whitby. |
| Ottawa | John O'Reilly<br>Geo. E. St. George, Asst. Insp. & Prov. Officer | Ottawa. |
| Oxford, North | William G. McKay | Woodstock. |
| Oxford, South | Gordon H. Cook | Ingersoll. |
| Parry Sound West | William Ireland | Parry Sound. |
| Parry Sound East | W. H. Silvester | Burk's Falls. |

SCHEDULE G.—*Concluded.*

| License District. | Inspector. | P. O. Address. |
|---|---|---|
| Peel | Joseph Foster | Brampton. |
| Perth, North | Wm. Climie | Listowel. |
| Perth, South | John S. Coppin | Mitchell. |
| Peterborough, East | John James Crowe | Hall's Glen. |
| Peterborough, West | George Cochrane | Peterborough. |
| Prescott | James H. Malloy | Fournier. |
| Prince Edward | D. L. Bongard. | Picton. |
| Rainy River | Frank Gardner | Rat Portage. |
| Renfrew, North | Alfred J. Fortier | Pembroke. |
| Renfrew, South | John Connolly | Admaston. |
| Russell | Robt. Dow | Metcalfe. |
| St. Catharines | R. Fowlie | St. Catharines. |
| Simcoe, Centre | O. H. Lyon | Barrie. |
| Simcoe, East | Angus McKay | Orillia. |
| Simcoe, West | Hugh Wright | Alliston. |
| Stormont | Donald P. McKinnon | South Finch. |
| Thunder Bay | John Hadden | Port Arthur. |
| Toronto | Thomas Dexter, Chief<br>John Wilson<br>Thomas A. Hastings | Toronto. |
| Victoria, East | John Short | Lindsay. |
| Victoria, West | John Short | Lindsay. |
| Waterloo, North | Benjamin Devitt. | Waterloo. |
| Waterloo, South | M. A. Abbey | Preston. |
| Welland | Archibald Thompson | Welland. |
| Wellington, East | John Macdonald | Elora. |
| Wellington, South | W. S. Cowan | Guelph. |
| Wellington, West | T. Flath | Drayton. |
| Wentworth, North | Joseph Bowman | Dundas. |
| Wentworth, South | Thomas Macklem | Hamilton. |
| York, East | James Eckhart | Unionville. |
| York, North | William Malloy | Newmarket. |
| York, West | Robert Wilcock | Richview. |

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